MONTHLY WEATHER REVIEW.

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Contributions for the MONTHLY WEATHER REVIEW from foreign correspondents should be addressed to the Chief, U. S. Weather Bureau, Washington, D. C.

Papers on general meteorology should also be addressed to the Chief of the Bureau.

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THE NEW MONTHLY WEATHER REVIEW.

It will be observed by readers of the MONTHLY WEATHER REVIEW that with the current number, July, 1909, a series of important changes have been made in the contents of this publication.

The climatology of the United States was originally developed chiefly for the agricultural and transportation interests, and the usual data were collected by voluntary observers stationed in nearly every county of the country except in the mountainous regions of the West. These data were published as monthly section bulletins, the sections generally being identical with the States except in certain parts of the North Atlantic States. The monthly bulletins on climatology have long been recognized as valuable publications intended for practical purposes, especially in keeping the public informed as to the relation of the weather to the condition of the crops. The crop-reporting feature was a few years ago transferred to the Bureau of Statistics of the Department of Agriculture, so that it became less important to continue the close supervision of the effects of the weather upon the crops, which has been one of the main features of the work of the Climatological Service.

It is evident that since the agricultural territory is generally located in the river valleys and the lower levels of the United States, it was but natural that the cooperative (voluntary) observers should be drawn largely from the agricultural communities. On this account the extension of meteorological observations into the high levels of the Rocky Mountain Plateau, and Pacific States was not pushed forward with any special activity. It is easy to secure cooperative observers in settled communities, but in mountain districts it becomes more difficult on account of the sparsity of the population. This is especially true in the winter when the people who find occupation in the mountains during the summer return to the lower levels because the snow makes it quite impracticable to live in places remote from the source of supply needed for the necessities of life.

The rapid growth of interests in irrigation and forestry, as well as in the sources of water power, especially in the semiarid regions of the West, has developed a new demand for meteorological data in these very mountain regions. The Weather Bureau has therefore organized a campaign in order to extend its observations into the mountain districts, and it has entered into an association with the following Bureaus of the Government service, because they are able to assist materially in this work.

The Forest Service of the Department of Agriculture.

The Bureau of Plant Industry of the Department of Agriculture.

The Reclamation Service of the Interior Department.

The Water Resources Branch of the Geological Survey of the Interior Department.

The Office of Indians Affair of the Interior Department.

The purpose of this inter-Bureau cooperation is to secure observers to make records of the amount and condition of the snowfall and rainfall along the sources of the rivers utilized farther on by the irrigation and power projects at lower levels. In a general way the U. S. Weather Bureau supplies the necessary apparatus, instructs the observers, and makes a small payment for the taking of the required observations, while the cooperating Bureaus render most valuable service in securing observers and in installing the apparatus. A good beginning has been made in the work of organizing this inter-Bureau service in respect to the water resources of the semiarid regions of the West, but it will take some time to extend it as far as required by the demands of the people.

Under these changed conditions it has seemed desirable to somewhat modify the form of the publication of the acquired climatological data. There will be no special changes as regards the administration of the service by the section directors of the several States except so far as regards the actual publication of the data.

After conference with the associated Bureaus it has seemed proper to divide the United States into twelve large districts, generally having the same boundaries as the great drainage basins of the country, these boundaries being marked off by the natural topographical divides. It is proposed to adjust the administration and the publications of the respective Bureaus as far as practicable to conform to these twelve districts, so that the several publications issuing will have a close relation to each other; that is, so that whatever concerns any one of these twelve drainage districts shall appear in such a form as to be easily accessible for comparative studies to engineers and the public generally. The Weather Bureau has thought it convenient to bring together under one publication, namely, the MONTHLY WEATHER REVIEW, representative climatological data covering the general climatology, the daily preciptation, and daily maximum and minimum temperatures of the respective districts. The data for each of the twelve districts will be edited by local representatives familiar with the country, who will prepare monthly summaries made up from the notes written by the several section directors. These twelve districts will be brought together in the MONTHLY WEATHER REVIEW, and they will not appear as detached summaries in section bulletins, such as have been issued heretofore in addition to the general climatological summary appearing in the MONTHLY WEATHER REVIEW. In this form all the climatological data of the United States will be readily accessible for reference, month by month, and separates covering each of the twelve drainage districts, respectively, can be utilized by the local interests. The MONTHLY WEATHER REVIEW will contain the usual data regarding the forecasts, the river stages, the storm tracks, and similar matter. Besides these there will be prepared each month several charts covering the climatology of the United States, for the precipitation and the temperature conditions of the month.

In view of the common interests that exist between meteorology, agriculture, transportation, forestry, irrigation, and the development of water power, it may prove to be convenient to make this publication on climatology the medium for the interchange of information between the associated Bureaus and the public generally along this line. It is hoped that the officials of the cooperating services will supply our editors with such news items and such reports from time to time in the several districts as may contribute efficiently to this end. The twelve adopted climatological districts are shown on the accompanying chart.

In all matters pertaining to the climatological data at the local Weather Bureau offices the district editors are to be addressed as indicated on page 265.

WILLIS L. MOORE, *Chief.*

Climatological Data for July, 1909.

DISTRICT No. 1, NORTH ATLANTIC STATES.

WILFORD M. WILSON, District Editor.

INTRODUCTION.

Climalotogical District No. 1 includes all that part of the United States extending from the watershed of the St. Croix River between Maine and the Province of New Brunswick southward to the drainage basin of the York River in Virginia, both inclusive. It therefore includes the following States or parts of States, the various watersheds of which drain eastward or southward into the Atlantic Ocean: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; that part of New York embraced in the Hudson, Delaware, and Susquehanna drainage basins; the eastern part of Pennsylvania, also drained by the Susquehanna and Delaware systems; all of New Jersey and Delaware, and most of Maryland; that part of West Virginia that includes the headwaters of the Potomac; and the eastern part of Virginia as far south as to include the drainage basin of the York River.

In order to study the relation of precipitation and water supply to the many important industries spread throughout this area the principal and subordinate watersheds will be mentioned in the text as occasion may require and reference is here made to Table 2, daily precipitation, for the appropriate names of these numerous subdivisions. There are in this district something over 350 cooperative observers making daily observations of temperature, precipitation, wind, and weather; and to summarize and treat this mass of data from the special view point appropriate to the agriculturist, navigator, railroad official, hydraulic engineer, forester, and those interested in the problems of water supply, whether student, teacher or theoretical climatologist, is an impossible task; and while effort will be made to group together in the general summary the more important climatological features as they occur from month to month, it is believed that the detailed climatological data presented in the tables will furnish sufficient material for an intelligent study of the relation of climatic conditions to almost any special industry that it may be found desirable to undertake. In this connection it may be said that the original observations made by the 350 or more observers in the district contain much important information, especially with respect to temperature, the beginning and ending of precipitation, the state of the weather, etc., which it has not been practicable to include in the tables. This information is on file and the Chief of the Weather Bureau will be glad to comply with any reasonable request for additional data not published in the tables.

TEMPERATURE.

The monthly mean temperatures were decidedly below normal over the entire district, the average deficiency being 2.2°. The deficiency was less over New York and the southern part of New England than elsewhere and greatest in Delaware and West Virginia where it averaged about 3°.

The average temperature for the New England States, 67.2°, was the lowest for any July during the past twenty-one years except in 1888, 1891, and 1902, while the mean of the current month for New York and New Jersey was the lowest since 1895, and for Virginia since 1891. There were many places in the district where the average for the month was the lowest on record.

The unusually warm weather that marked the closing days of June, began to moderate by the 1st of July and the temperature fell quite rapidly on the 2d and 3d. The 4th and 5th were remarkably cool for the season over the entire district with minimum temperatures dangerously near the frost point in the more exposed localities. At Layton, Sussex County, N. J., the temperature fell to 36° on the morning of the 5th, which is the lowest recorded in July at that station in twenty-five years. A rapid rise in temperature began over the southern part of the district on the 8th, several stations in Virginia reporting a rise of 40° or more on that date. The cool weather continued, however, over the northern part of the district until the 11th, the lowest temperatures for the month in New York and the New England States being generally recorded on the 9th. The lowest temperature recorded in the district, 30°, occurred at Gabriels and Indian Lake, stations in the Adirondack Mountains, on the 9th. The return to the normal was not so abrupt over the northern part of the district as noted in Virginia, but a well marked warm period developed, continuing in most sections until near the close of the second decade, when a rapid decline in temperature occurred, especially over West Virginia. Light frosts were reported from several localities in that section on the 19th and 20th. The warmest period of the month occurred at the close of the third decade, the 30th being the date on which the maximum temperature of the month was most generally recorded.

PRECIPITATION.

The current month ranks among the driest Julys since the Climatological Service was established. For the district as a whole the average deficiency was somewhat over two inches, which is about 50 per cent of the normal.

Although there was a gradual increase in the deficiency from Maine southward to Maryland and Virginia where the total precipitation for the month was only about 40 per cent of the normal, the average rainfall over New England was the least in twenty-one years, and in New York and New Jersey the least in fifteen years.

As is usually the case during the summer months when local storms are most frequent, the geographical distribution of the rainfall was decidely irregular and uneven, Patten in the Penobscot basin reporting a total for the month of 6.42 inches, while only 0.20 inch occurred at Clear Spring in the Potomac Valley in Maryland. The distribution in point of time was also irregular. About 60 per cent of the total rainfall for New Jersey occurred with a single storm on the 23d, while at many individual stations practically all the rain for the month occurred in one day.

The month opened with fair and pleasant weather except in parts of New England where light showers were reported on the 1st and 2d. On the 3d general rains occurred over New England and New York, the fall being moderately heavy in Maine and New Hampshire, but light elsewhere. In New England the weather continued threatening with light, scattered showers alternating with clear skies until the middle of the second decade. For the remainder of the district, except for the light showers that occurred on the 6th, there was practically no rain and but little cloudiness until near the close of the second decade. The most general rains of the month occurred from the 14th to the 18th and from the 22d to the 24th. Thunderstorms were frequent during these periods and in some localities the precipitation was heavy. From the 25th to the close of the month only light and scattered showers occurred. As a rule the drought was severely felt throughout the district, except in parts of New England, until the occurrence of the general rains at the beginning of the third decade, which, however, afforded but temperary relief. At the close of the month there was again a general need for moisture.

The rivers and streams are at a very low stage and economy is necessary in the use of the water supply for cities and towns.

The average amount of sunshine was above the normal for the month throughout the district.

TABLE 1.—*Climatological data for July, 1909. District No. 1, North Atlantic States.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maine.																				
Bar Harbor	Hancock	20	23	65.0	− 0.6	90	28	44	6	34	2.66	− 0.36	1.20	0.0	12	9	15	7	sw.	William Miller.
Cornish	York	778	54	67.0	− 2.0	91	15†	46	5†	36	3.13	− 1.14	1.03	0.0	9	9	16	6	nw.	T. H. West.
Eastport	Washington	53	37	60.6	+ 0.2	85	28	45	8	31	3.37	− 0.05	1.33	0.0	12	4	15	12	s.	U. S. Weather Bureau.
Fairfield	Somerset	90	24	67.2	− 0.7	90	29	46	6†	32	1.77	− 1.68	0.75	0.0	5	15	6	10	.....	E. F. Parker.
Farmington	Franklin	450	12	65.2	− 2.2	91	28	41	6	38	2.05	− 1.85	0.85	0.0	8	15	11	5	nw.	State Normal School.
Gardiner	Kennebec	163	17	66.0	− 4.8	91	28	45	7†	37	2.19	− 1.06	0.90	0.0	8	16	8	7	sw.	S. D. Soule.
Greenville	Piscataquis	1,000	5	61.7	.....	85	28†	35	7	38	3.34	− 1.53	1.17	0.0	11	.....	.....	.....	.....	U. S. Weather Bureau.
Houlton	Aroostook	362	7	66.6	.....	89	30	40	4	36	2.15	− 0.38	1.00	0.0	7	19	4	8	ne.	Bangor & Aroostook R.R.
Lewiston	Androscoggin	185	35	65.0	− 4.5	89	29	44	5	33	2.47	− 1.10	0.97	0.0	7	13	9	9	nw.	Union Water Power Co.
Madison	Somerset	257	6	65.0	.....	91	30	41	6	34	2.25	− 3.64	0.78	0.0	11	12	10	9	s.	Wm. Jardine.
Millinocket	Penobscot	386	6	66.6	.....	93	28	44	7	39	3.09	− 0.92	1.13	0.0	15	4	13	14	sw.	H. S. Ferguson.
North Bridgton	Cumberland	450	16	67.3	− 2.2	93	28	44	5	35	2.00	− 2.65	0.80	0.0	9	3	24	4	sw.	G. E. Chadbourne.
Orono	Penobscot	129	40	66.6	− 0.7	91	28†	42	6	38	2.37	− 1.07	0.46	0.0	11	8	9	14	nw.	Agricultural Exp. Stat'n.
Patten [6]	Penobscot	550	7	64.2	.....	88	28	40	6†	35	6.42	+ 2.62	2.00	0.0	14	12	7	8	w.	Bangor & Aroostook R.R.
Portland	Cumberland	99	38	66.4	− 1.6	91	30	50	9	27	2.14	− 1.11	0.93	0.0	11	13	13	5	s.	U. S. Weather Bureau.
Rumford Falls	Oxford	505	16	65.8	− 2.5	90	28	45	6	34	2.34	− 1.95	0.70	0.0	5	23	4	4	nw.	Chas. A Mixer, C. E.
Van Buren [6]	Aroostook	510	7	64.9	.....	88	28	37	5	40	5.69	+ 1.60	1.30	0.0	14	12	4	12	nw.	Bangor & Aroostook R.R.
Winslow	Kennebec	90	14	66.3	.....	92	29	41	7	38	1.95	− 2.95	0.68	0.0	8	16	11	4	w.	Hollingsworth & Whitney
New Hampshire.																				
Alstead Center	Cheshire	1,120	5	65.2	.....	86	15†	45	5†	31	3.43	− 1.14	1.30	0.0	9	20	7	4	nw.	Frank Dewing.
Benton		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	State Sanatorium.
Bethlehem	Grafton	1,470	17	63.5	− 3.6	87	29	40	7	34	3.13	− 3.07	1.14	0.0	10	14	10	7	sw.	Benj. Tucker.
Concord	Merrimac	350	49	67.0	− 2.1	91	29	43	5	36	2.14	− 1.65	1.04	0.0	8	7	20	4	.....	U. S. Weather Bureau.
Durham	Stafford	88	14	67.6	− 2.3	96	29	46	6†	36	1.73	− 1.52	0.71	0.0	8	17	8	6	sw.	Agricultural Exp. Stat'n.
Franklin	Merrimac	440	10	67.0	.....	91	28†	41	5	37	3.08	− 0.35	1.05	0.0	10	14	13	4	w.	Dr. C. P. Webster.
Grafton	Grafton	863	23	64.4	− 3.4	93	30	36	5	41	2.03	− 1.94	1.80	0.0	10	18	6	7	nw.	P. R. Kimball.
Hanover	Grafton	603	75	66.3	− 2.9	92	15†	41	5	40	0.58	− 2.91	0.17	0.0	8	7	16	8	sw	Dartmouth College.
Keene	Cheshire	506	24	66.3	− 2.0	93	29	37	5	42	1.48	− 2.66	0.65	0.0	9	16	11	4	nw.	Samuel D. Wadsworth.
Nashua	Hillsboro	125	24	70.0	− 0.7	95	30	46	5†	35	2.17	− 1.25	0.84	0.0	5	10	16	5	nw.	Jackson Company.
Newton	Rockingham	.....	21	66.8	− 2.4	93	30	41	9	37	2.49	− 0.99	1.16	0.0	7	9	20	2	nw.	W. C. Gale.
Plymouth	Grafton	500	21	65.5	− 2.1	90	29	39	5†	40	2.69	− 0.73	0.90	0.0	8	20	2	9	w.	Mrs. H. G. Trow.
West Ossipee	Carroll	.....	1	67.8	.....	100	27	30	9	60	1.90	.....	0.80	0.0	6	27	4	0	w.	Camp Ossipee.
Vermont.																				
Bloomfield	Essex	.....	2	63.2	.....	88	28	37	7	39	3.25	.....	0.88	0.0	12	14	11	6	s.	Lyman Falls Co.
Cavendish	Windsor	910	6	65.4	.....	92	29†	41	5†	41	2.05	− 0.01	0.75	0.0	9	.....	.....	.....	w.	Miss M. A. Kingsbury.
Chelsea	Orange	1,640	14	63.2	− 4.0	88	13	42	5	35	2.08	− 2.81	0.58	0.0	9	11	9	11	w.	W. F. Dewey.
Jacksonville	Windham	1,000	24	64.0	− 1.6	89	29	39	9	39	1.68	− 3.05	0.50	0.0	6	24	6	1	nw.	Miss Martha French.
Manchester	Bennington	980	10	64.0	.....	85	29†	40	9	33	2.08	− 2.92	0.65	0.0	8	13	14	4	sw.	N. M. Canfield.
St. Johnsbury	Caledonia	711	16	68.8	+ 0.7	99	28	41	5	46	2.83	− 1.51	0.93	0.0	10	19	7	5	n.	Fairbanks Museum.
Woodstock	Windsor	700	17	64.7	− 3.6	90	29	40	2	36	2.27	− 1.42	0.56	0.0	7	2	8	21	.....	John S. Eaton.
Massachusetts.																				
Amherst	Hampshire	222	20	68.8	− 1.7	93	30	42	9	40	2.24	− 2.24	1.50	0.0	6	16	12	3	nw.	Agricultural Exp. Stat'n.
Blue Hill	Norfolk	640	25	68.7	− 0.5	96	30	47	9	28	1.28	− 1.45	0.56	0.0	11	11	11	9	w.	Blue Hill Observatory.
Boston	Suffolk	125	39	71.5	+ 0.2	95	30	53	9	27	0.97	− 2.39	0.43	0.0	5	8	18	5	w.	U. S. Weather Bureau.
Chestnut Hill	Suffolk	124	29	71.0	− 0.6	98	30	47	5	36	1.10	− 2.52	0.43	0.0	7	23	2	6	.....	Metrop. Water Board.
Clinton	Worcester	370	13	68.4	.....	90	30	46	8	33	4.03	− 0.23	2.73	0.0	8	20	7	4	.....	Metrop. Water Board.
Concord	Middlesex	139	19	67.8	− 2.1	93	30	44	9	36	3.76	+ 0.36	2.33	0.0	9	9	16	6	nw.	F. A. Tower.
Fall River	Bristol	200	43	69.2	− 1.5	90	30	48	9	26	0.43	− 2.61	0.20	0.0	5	13	18	0	sw.	C. V. S. Remington.
Fitchburg	Worcester	550	26	69.3	− 1.2	93	30	48	9	32	2.48	− 1.74	0.90	0.0	9	18	10	3	w.	Dr. A. P. Mason.
Framingham	Middlesex	160	29	70.1	− 1.2	93	30	47	8	34	1.63	− 1.94	0.60	0.0	8	.....	.....	.....	.....	Metrop. Water Board.
Hyannis	Barnstable	31	18	69.2	− 3.6	91	30	52	5	23	0.55	− 2.34	0.15	0.0	5	24	5	2	sw.	C. F. Sleeper.
Lawrence	Essex	51	25	69.4	− 3.2	94	30	48	9	32	2.62	− 0.83	1.34	0.0	7	8	20	3	sw.	Essex Company.
Lowell	Middlesex	100	24	70.5	− 1.0	92	30	48	7	32	2.52	− 1.18	1.45	0.0	5	.....	.....	.....	.....	Prop's. Locks and Canals.
Middleboro	Plymouth	53	23	67.0	− 2.2	93	30	41	5	36	1.33	− 1.75	0.49	0.0	7	3	20	8	sw.	A. R. Gurney.
Monson	Hampden	420	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. G. E. Fuller.
Nantucket	Nantucket	15	23	66.9	− 0.6	82	15	54	10	18	0.98	− 1.70	0.56	0.0	7	13	15	3	sw.	U. S. Weather Bureau.
New Bedford	Bristol	88	97	71.0	+ 1.6	88	30	51	9	29	.....	.....	.....	0.0	....	24	1	6	sw.	City Engineer.
Norfolk	Norfolk	244	6	66.8	.....	97	30	36	5	43	0.99	− 1.85	0.40	0.0	9	20	9	2	w.	Miss Ruby H. Martyn.
Northampton	Hampshire	205	1	66.2	.....	92	30	44	5†	35	1.57	.....	0.87	0.0	6	23	3	5	nw.	D. E. Hoxie.
Plymouth	Plymouth	.....	24	67.4	.....	90	31	48	9	29	1.89	− 1.21	0.86	0.0	7	23	6	2	sw.	Miss L. B. Knapp.
Provincetown	Barnstable	40	22	70.7	+ 1.0	90	30	53	5†	28	0.97	− 1.83	0.41	0.0	4	25	6	0	sw.	Gideon Bowley.
Rockport	Essex	25	7	66.4	.....	85	26†	53	9	24	2.97	0.00	1.45	0.0	6	17	10	4	sw.	C. F. P. Bearse.
Rutland	Worcester	1,160	7	66.7	.....	88	15†	46	8	29	5.18	+ 0.69	3.09	0.0	9	18	11	2	sw.	State Sanatorium.
South Egremont	Berkshire	764	7	65.6	.....	91	30	40	5†	38	2.77	− 1.53	1.40	0.0	7	.....	.....	.....	nw.	Roscoe C. Taft.
Turners Falls	Franklin	200	18	68.8	− 1.1	90	30	46	8	32	1.68	− 2.45	0.58	0.0	4	.....	.....	.....	.....	Turners Falls Co.
Westboro	Worcester	298	35	70.8	− 1.3	97	30	44	5	39	1.65	− 1.73	0.51	0.0	6	.....	.....	.....	.....	G. S. Newcomb.
Williamstown	Berkshire	711	28	66.8	− 1.8	88	15	43	9	33	1.51	− 3.00	0.76	0.0	9	12	14	5	w.	Williams College.
Worcester	Worcester	518	17	70.0	− 1.4	93	30	51	9	28	1.14	− 2.70	0.25	0.0	7	15	11	5	sw.	G. W. Swan.
Rhode Island.																				
Block Island	Newport	26	29	67.8	− 0.3	84	30	54	9	18	0.93	− 2.38	0.44	0.0	5	26	2	3	sw.	U. S. Weather Bureau.
Bristol	Bristol	53	23	68.0	− 1.8	82	30	52	9	20	0.58	− 2.32	0.36	0.0	4	24	5	2	sw.	N. G. Herreshoff.
Kingston	Washington	250	20	67.8	− 1.4	92	30	48	4†	29	1.51	− 2.01	0.60	0.0	6	19	9	2	sw.	Nathaniel Helme.
Narragansett Pier	Newport	22	27	66.8	− 3.1	87	30	46	5	29	1.16	− 2.16	0.57	0.0	6	26	2	3	s.	U. S. Weather Bureau.
Providence	Providence	182	5	70.2	− 3.2	94	30	51	9	26	0.58	− 2.78	0.31	0.0	5	14	13	4	nw.	Do.
Connecticut.																				
Bridgeport	Fairfield	20	16	71.4	.....	96	30	50	9	33	2.50	− 2.86	1.73	0.0	5	21	9	1	sw.	Wm. Jennings.
Canton	Hartford	900	48	66.8	− 1.6	89	13†	42	9	36	3.28	− 1.47	0.93	0.0	7	18	8	5	nw.	G. J. Case.
Colchester [1]	New London	370	23	68.4	− 1.6	92	30	42	9	38	1.23	− 2.74	0.50	0.0	6	15	14	2	w.	S. P. Willard.
Cream Hill	Litchfield	1,300	13	67.8	− 1.2	90	30	47	5	28	2.37	− 3.35	0.61	0.0	7	27	1	3	sw.	C. L. Gold.
Danielson	Windham	300	7	68.2	.....	93	29†	43	5	35	1.32	− 0.55	0.42	0.0	5	22	8	1	s.	F. E. Bitgood.
Hartford	Hartford	159	5	70.8	− 0.8	93	30	51	9	28	1.59	− 2.52	0.80	0.0	7	10	17	4	s.	U. S. Weather Bureau.
Hawleyville	Fairfield	600	11	68.4	− 2.5	91	30	43	5†	37	2.21	− 1.96	1.28	0.0	4	18	10	3	w.	E. N. Hawley.
New Haven	New Haven	107	122	71.0	− 0.9	93	30	53	9	28	1.42	− 3.36	0.80	0.0	5	16	13	2	s.	U. S. Weather Bureau.
New London	New London	47	39	70.2	− 0.3	90	30	52	4†	29	2.34	− 1.47	0.66	0.0	5	14	12	5	sw.	T. C. Dillon.
North Grosvenordale	Windham	409	19	68.1	− 2.9	93	30	45	8	36	1.40	− 2.54	0.37	0.0	8	15	13	3	sw.	Grosvenor Dale Co.
Norwalk	Fairfield	116	19	70.6	− 0.5	96	30	45	9	35	1.96	− 2.43	1.39	0.0	3	22	8	1	w.	Geo. C. Comstock.
Southington	Hartford	140	40	68.4	− 2.7	92	30	43	9	37	2.50	− 1.87	0.80	0.0	6	12	18	1	sw.	Luman Andrews.
Storrs [5]	Tolland	640	21	67.0	− 1.7	90	30	32	2	50	0.84	− 3.79	0.32	0.0	3	15	7	8	s.	Agricultural Exp. Stat'n.
Torrington	Litchfield	625	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Forbes, Ph. D.
Voluntown	New London	260	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. E. Dewhurst.
Waterbury	New Haven	400	34	70.4	− 1.3	94	30	46	5	37	1.56	− 3.29	0.85	0.0	6	.....	.....	.....	.....	N. J. Welton.
New York.																				
Addison	Steuben	1,000	19	70.4	+ 0.3	98	29	39	5	48	1.04	− 2.35	0.63	0.0	5	25	3	3	sw.	H. R. Ainsworth.
Amsterdam	Montgomery	277	5	67.4	.....	91	12	42	9	38	3.00	.....	1.05	0.0	7	25	3	3	w.	Emery Ellwood.
Albany	Albany	97	88	70.8	− 1.2	91	30	50	9	30	1.74	− 2.16	0.54	0.0	7	9	19	3	s.	U. S. Weather Bureau.
Athens	Greene	90	7	70.2	.....	93	13†	47	9	32	1.90	.....	1.02	0.0	8	12	16	3	nw.	E. C. Brooks.
Ballston Lake	Saratoga	400	5	66.6	.....	89	15	42	8	35	3.16	.....	0.90	0.0	8	15	10	6	.....	Geo. R. Schauber.

TABLE 1.—*Climatological data for July, 1909. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York—Cont'd.																				
Bedford	Westchester	450	11	72.6	+ 0.7	98	30	48	5	39	2.78	− 2.44	2.01	0.0	6	17	11	3	.....	Dr. L. Rosenburg.
Binghamton	Broome	875	18	67.4	− 2.5	89	15	43	5	36	1.07	− 2.47	0.40	0.0	6	8	9	14	nw.	U. S. Weather Bureau.
Bouckville	Madison	1,350	12	65.3	− 2.8	88	15	42	9	35	3.05	− 1.74	1.01	0.0	8	7	14	10	nw.	L. W. Griswold.
Boyds Corners	Putnam	560	27	.....	.....	.....	.....	.....	.....	.....	3.17	− 1.80	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
Carmel	Putnam	500	17	70.4	− 1.7	91	13†	53	4†	34	3.43	− 2.77	1.56	0.0	4	22	2	7	sw.	Thomas Manning.
Chatham	Columbia	470	8	68.4	.....	91	13†	44	5	35	1.89	.....	0.98	0.0	7	18	11	2	s.	Morton R. Tank.
Cooperstown	Otsego	1,250	55	64.8	− 3.3	86	12	43	9	29	5.65	+ 1.14	1.50	0.0	12	11	16	4	nw.	G. Pomeroy Keese.
Corinth	Saratoga	542	.....	.....	.....	.....	.....	.....	.....	.....	2.20	.....	0.90	0.0	6	.....	.....	.....	.....	A. M. Hollister.
Cortland	Cortland	1 129	47	66.8	− 0.3	89	15	41	5	35	2.62	− 2.26	0.60	0.0	7	26	3	2	.....	F. G. Baker.
Cutchogue	Suffolk	32	32	70.6	− 1.4	93	30	51	6†	31	1.25	− 2.10	0.91	0.0	5	9	11	1	sw.	Wm. A. Fleet.
De Ruyter	Madison	1,300	6	66.0	.....	88	14†	37	8	41	4.55	.....	0.75	0.0	9	17	7	7	nw.	B. D. Crandall.
Easton	Washington	.....	19	.....	.....	.....	.....	.....	.....	.....	1.77	− 3.26	0.73	0.0	3	.....	.....	.....	.....	H. Taber.
Elmira	Chemung	863	27	69.9	− 2.3	94	15	43	8	44	1.46	− 2.04	0.68	0.0	5	14	13	4	sw.	Gerity Bros.
Fort Hunter	Montgomery	380	.....	.....	.....	.....	.....	.....	.....	.....	3.00	.....	1.00	0.0	7	16	5	10	w.	C. E. Wing.
Fort Plain	Montgomery	316	5	69.6	.....	91	15	45	9	35	4.27	.....	1.35	0.0	7	14	15	2	w.	Abram Devendorf.
Glens Falls	Warren	340	15	68.8	− 2.0	92	30	45	5†	37	1.86	− 2.09	0.62	0.0	9	6	13	12	w.	Prof. C. L. Williams.
Gloversville	Fulton	850	17	65.6	− 3.3	88	28	40	9	37	4.87	+ 0.49	1.95	0.0	7	13	17	1	w.	W. L. McLean.
Greenfield Center	Saratoga	314	11	67.2	− 2.6	90	13†	41	9	37	3.07	− 1.13	0.85	0.0	7	14	15	2	w.	S. E. Darrow.
Greenwich	Washington	425	12	70.4	+ 0.3	95	30	46	9	37	1.57	− 2.17	0.55	0.0	8	11	17	3	nw.	I. V. H. Gill.
Griffin Corners	Delaware	2,260	9	63.1	.....	87	15†	35	5†	44	1.12	.....	0.79	0.0	8	20	7	4	w.	Sylvenus Kelly.
Hancock	Delaware	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.02	.....	.....	.....	6	.....	.....	.....	.....	Daniel B. Van Eaten.
Haskinville	Steuben	.....	9	.....	.....	.....	.....	.....	.....	.....	1.31	− 3.89	0.42	0.0	8	.....	.....	.....	.....	W. G. Collins.
Hoosick Falls	Rensselaer	410	.....	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.78	0.0	9	25	0	6	w.	Sanford L. Cluett.
Indian Lake	Hamilton	1,705	10	63.3	.....	90	14†	30	9	35	2.35	.....	0.60	0.0	9	17	5	9	w.	Lester Severie.
Jeffersonville	Sullivan	1,240	6	65.2	.....	90	14	35	5	46	2.12	.....	1.42	0.0	4	23	6	2	w.	Chas. Wilfert, Jr.
Lake Pleasant	Hamilton	.....	.....	65.2	.....	84	21	36	1†	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	Willet Lawrence.
Liberty	Sullivan	2,300	23	65.8	− 1.2	87	29	43	5	29	2.10	− 3.05	1.45	0.0	3	18	8	5	nw.	Dr. H. M. King.
Little Falls	Herkimer	924	11	67.1	− 2.4	90	15	44	9	36	4.63	− 0.23	1.46	0.0	9	16	14	1	w.	O. J. Demster.
Mohonk Lake	Ulster	1,245	13	68.2	− 1.8	87	30	50	9	23	2.24	− 3.92	1.67	0.0	3	22	5	4	sw.	A. K. Smiley.
Morehouseville	Hamilton	1,697	1	62.2	.....	87	15	34	9	45	4.85	.....	1.20	0.0	13	16	4	11	w.	Theodore C. Remonda.
Mount Hope	Westchester	200	12	69.8	− 3.4	95	30	43	9	41	3.10	− 3.14	1.40	0.0	6	11	18	2	.....	Wm. A. Cornelius.
Newark Valley	Tioga	825	10	.....	.....	.....	.....	.....	.....	.....	1.65	− 2.79	0.80	0.0	4	26	4	1	.....	M. D. Clinton.
New Berlin	Chenango	.....	2	.....	.....	.....	.....	.....	.....	.....	3.31	.....	1.14	0.0	10	16	4	11	sw.	Roger Greene.
New Lisbon	Otsego	1,234	19	62.8	− 2.9	88	15	33	9	44	3.75	− 1.35	1.34	0.0	8	12	10	9	nw.	G. A. Yates.
New York City	New York	314	84	73.4	− 0.1	92	30	58	4	24	1.98	− 2.56	1.56	0.0	5	13	13	5	s.	U. S. Weather Bureau.
North Creek	Warren	1,002	1	66.4	.....	86	15†	46	4†	30	2.12	.....	0.97	0.0	5	15	10	6	nw.	W. G. Kenwell.
Northville	Fulton	742	.....	.....	.....	.....	.....	.....	.....	.....	2.30	.....	1.32	0.0	5	18	7	6	nw.	P. C. Pickard.
Norwich	Chenango	1,015	3	67.0	.....	90	16	40	5†	36	3.95	.....	1.12	0.0	7	16	11	4	.....	H. S. Hopkins.
Oneonta	Otsego	1,112	15	67.6	− 2.6	90	29†	40	9	41	2.97	− 2.02	1.12	0.0	8	21	7	3	nw.	H. W. Lee.
Oxford	Chenango	916	44	66.2	− 2.2	86	11†	40	9	38	2.75	− 1.62	1.40	0.0	6	11	17	3	w.	John P. Davis.
Port Jervis	Orange	470	25	70.0	− 1.0	95	29†	42	5†	44	1.37	− 4.00	0.72	0.0	5	24	5	2	w.	John M. Dolph.
Salisbury	Herkimer	1,526	12	65.4	− 3.1	88	15	40	9	38	4.97	− 0.61	2.06	0.0	10	8	20	3	w.	Joseph Ryan.
Salisbury Mills	Orange	314	10	69.0	.....	93	30	45	9	35	2.05	− 2.15	1.15	0.0	3	25	4	2	w.	H. P. Ramsdell.
Scarsdale	Westchester	200	5	70.5	.....	93	30	50	5†	36	3.46	.....	1.83	0.0	6	21	10	0	w.	C. H. Wilmarth.
Setauket	Suffolk	40	24	71.0	− 1.0	92	30	53	10	28	2.44	− 2.10	1.50	0.0	3	23	6	2	w.	Selah B. Strong.
Sherburne	Chenango	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. B. Collins.
Southampton	Suffolk	36	8	69.0	.....	85	30	50	9	29	2.54	.....	1.62	0.0	5	21	9	1	nw.	W. L. Jagger.
Southeast Reservoir	Putnam	310	14	.....	.....	.....	.....	.....	.....	.....	2.83	− 2.37	.....	.....	.....	.....	.....	.....	.....	Thomas Manning.
Spier Falls	Saratoga	400	8	67.8	.....	91	15	43	9	36	2.33	.....	0.73	0.0	6	17	11	3	sw.	W. F. Anderson.
Trenton Falls	Oneida	751	.....	.....	.....	.....	.....	.....	.....	.....	3.47	.....	1.50	0.0	9	11	3	17	w.	C. W. Young.
Tribes Hill	Montgomery	268	.....	.....	.....	.....	.....	.....	.....	.....	3.40	.....	1.00	0.0	6	22	3	6	w.	R. S. Marshall.
Utica	Oneida	395	4	.....	.....	.....	.....	.....	.....	.....	3.03	.....	1.00	0.0	10	.....	.....	.....	.....	W. E. Young.
Wading River	Suffolk	112	3	69.8	.....	95	30	45	10	35	1.74	.....	0.95	0.0	7	25	5	1	s.	H. B. Fullerton.
Wappingers Falls	Dutchess	110	19	70.0	− 3.2	91	30	49	5	30	2.70	− 2.57	1.24	0.0	4	18	12	1	sw.	H. C. Townsend.
Warwick	Orange	538	9	.....	.....	.....	.....	.....	.....	.....	1.77	− 3.81	0.86	0.0	3	.....	.....	.....	.....	John W. Sly.
Waverly	Tioga	824	20	68.4	− 1.9	94	15	35	5	50	1.16	− 2.82	0.50	0.0	7	10	18	3	nw.	Hon. J. F. Shoemaker.
West Berne	Albany	936	29	66.2	.....	90	12†	36	9	42	2.90	.....	0.79	0.0	7	14	13	4	w.	W. J. Haverly.
West Point	Orange	167	60	72.4	− 1.6	96	31	53	8	31	2.60	− 2.88	0.80	0.0	5	21	9	1	e.	Maj. Chas. M. Gandy.
Windham	Greene	1,520	10	63.8	.....	89	28	37	10	40	1.73	.....	0.77	0.0	6	15	15	1	nw.	A. R. Mott.
Pennsylvania.																				
Altoona	Blair	1,181	21	67.4[a]	− 4.2	90[a]	1	40[a]	5	44[a]	2.37	− 1.26	0.91	0.0	7	.....	.....	.....	.....	Dr. C. B. Dudley.
Bellefonte	Center	826	8	72.8	− 0.7	96	11	43	8†	48	1.34	− 3.62	0.60	0.0	5	21	8	2	.....	Fred Kurtz.
Center Hall	Center	1,272	10	69.6	− 2.0	90	1†	44	8	41	1.53	− 2.64	0.60	0.0	7	14	9	8	.....	S. W. Smith.
Clearfield	Clearfield	1,107	1	67.3	.....	90	1†	37	5†	43	2.52	.....	2.02	0.0	7	20	9	2	nw.	Raymond C. Ogden.
Contesville	Chester	380	21	72.8	− 1.8	90	30	47	5	38	1.16	− 3.88	0.56	0.0	3	17	12	2	w.	W. T. Gordon.
Drifton	Luzerne	1,633	11	66.2	− 2.8	87	15	42	9	40	2.04	− 2.38	1.10	0.0	7	23	5	3	w.	Eckley B. Coxe, jr.
Dushore	Sullivan	1,590	11	.....	.....	91	25	36	7	42	1.25	− 3.39	0.42	0.0	4	24	2	5	sw.	Dr. J. D. Benjamin.
Easton	Northampton	325	26	71.8	− 2.6	92	1†	49	4†	35	3.02	− 1.71	.....	0.0	5	23	5	3	.....	George R. Miller.
Emporium	Cameron	1,050	22	67.2	− 3.5	88	11	42	5†	40	1.95	− 2.84	0.95	0.0	7	16	14	1	w.	T. B. Lloyd.
Ephrata	Lancaster	384	9	71.8	− 3.1	94	29†	48	20†	41	2.70	− 2.14	2.27	0.0	3	19	9	3	w.	W. L. Frantz.
Everett	Bedford	1,080	11	69.2	− 3.0	91	30	42	8	39	1.74	− 2.58	0.66	0.0	6	13	17	1	nw.	B. L. Steckman.
George School	Bucks	.....	2	72.2[c]	.....	94	30	45[c]	5	38[c]	1.25	.....	0.87	0.0	5	25	4	2	nw.	Prof. A. C. Smedley.
Gettysburg	Adams	600	35	73.0	− 0.8	97	30	46	5	41	0.85	− 2.62	0.46	0.0	4	17	12	2	nw.	Col. E. B. Cope.
Gordon	Schuylkill	804	5	67.8	− 2.6	92	29	37	5	47	2.74	− 1.84	0.82	0.0	6	19	9	3	w.	Capt. A. G. Johnson.
Hamburg	Berks	380	13	71.8[a]	− 2.5	95[b]	1†	46	5	39[b]	1.53	− 3.59	0.84	0.0	3	24	5	2	nw.	W. J. Kalbach.
Hanover	York	600	4	74.2	.....	97	29	47	5	38	0.77	.....	0.52	0.0	4	12	19	0	nw.	Dr A. C. Wentz.
Harrisburg	Dauphin	361	21	73.4	− 1.1	94	30	54	5	30	0.86	− 3.01	0.66	0.0	4	11	14	6	nw.	U. S. Weather Bureau.
Huntingdon	Huntingdon	650	21	70.8	− 1.2	93	1	41	5†	47	1.65	− 2.42	0.64	0.0	6	10	11	10	w.	Prof. W. J. Swigart.
Hyndman	Bedford	977	2	69.0	.....	93	30	42	20	41	2.26	.....	1.21	0.0	9	9	18	4	n.	H. C. Mauk.
Kennett Square	Chester	275	19	71.8	− 2.3	91	30	50	4†	30	0.91	− 3.83	0.72	0.0	3	23	7	1	nw.	C. C. Hadley.
Lawrenceville	Tioga	1,006	11	68.1	− 2.2	93	29	37	5	46	2.30	− 1.93	0.80	0.0	5	20	7	4	.....	C. P. Darling.
Lebanon	Lebanon	458	22	72.6	− 0.7	96	30	46	5	38	0.87	− 3.71	0.77	0.0	4	14	14	3	nw.	G. W. Hayes, C. E.
Le Roy	Bradford	1,400	21	67.8	− 2.1	90	30	45	5	32	1.02	− 2.88	0.41	0.0	7	15	13	3	sw.	G. W. T. Warburton.
Lewisburg	Union	450	38	71.5	− 1.6	95	30	42	5	47	1.00	− 3.07	0.80	0.0	4	19	9	3	sw.	Prof. W. G. Owens.
Lock Haven	Clinton	560	21	70.6	− 2.7	98	15	42	5	44	1.27	− 2.94	1.16	0.0	4	15	12	4	w.	Prof J. A. Robb.
Marion	Franklin	640	5	72.8	− 1.1	98	30	45	5†	44	1.23	− 3.83	0.61	0.0	5	19	12	0	.....	Hon. C. B. Hege.
Mauch Chunk	Carbon	634	20	69.5	− 3.0	93	30	41	21	45	2.46	− 2.53	1.80	0.0	4	17	8	6	w.	F. C. Wintermute.
Mifflintown	Juniata	445	5	70.8	− 1.7	92	1†	42	5	41	1.81	− 1.94	0.63	0.0	6	18	7	6	w.	Wellington Smith.
Milford	Pike	455	6	67.4	− 3.1	96	14	38	5†	54	4.33	+ 0.29	1.58	0.0	7	19	10	2	nw.	Mrs. Alla Doughty.
Montrose	Susquehanna	1,658	5	65.0	− 3.1	90	29	36	5	44	1.63	− 2.71	0.82	0.0	3	.....	.....	.....	.....	J. R. Beebe.
Mountain House	Fulton	1,950	.....	71.0	.....	94	1	48	4†	32	3.19	.....	2.05	0.0	5	18	13	.....	w.	T. F. Sloan.
New Germantown	Perry	873	5	70.5	− 1.6	94	30	44	5	38	1.31	− 3.37	0.64	0.0	4	19	5	7	w.	Ed. C. Johnston.
Philadelphia(1)	Philadelphia	117	38	75.3	− 0.5	95	30	59	4	24	2.19	− 2.14	1.09	0.0	4	13	15	3	nw.	U. S. Weather Bureau.
Philadelphia(2)	Philadelphia	120	18	74.8	− 1.8	95	30	58	5†	27	2.31	− 2.18	0.96	0.0	7	12	16	3	nw.	John Comly.
Philadelphia(3)	Philadelphia	90	5	73.8	.....	95	30	49	5	35	2.97	.....	1.00	0.0	7	18	10	3	sw.	A. C. Davis.
Pocono Lake	Monroe	1,662	7	65.6[a]	− 1.0	92[a]	31	34[a]	9	49[a]	3.23	− 1.11	1.72	0.0	5	23[a]	5[a]	2[a]	w.	Pocono Lake Ice Co.
Reading	Berks	280	36	73.0	− 2.3	94	30	46	5	39	1.22	− 3.10	0.99	0.0	5	.....	.....	.....	.....	Franklin Yager.

TABLE 1.—*Climatological data for July, 1909. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Pennsylvania—Cont'd.																				
Scranton	Lackawanna	805	9	69.4	− 2.4	91	29	46	5	35	2.23	− 1.60	1.01	0.0	7	8	18	5	sw.	U. S. Weather Bureau.
Selinsgrove	Snyder	455	21	71.0	− 2.7	94	30	41	5	43	1.12	− 3.29	0.53	0.0	4	2	25	4	nw.	J. M. Boyer, C. E.
State College	Center	1,191	21	67.8	− 2.9	88	1†	47	8	33	2.31	− 1.61	1.30	0.0	5	.....	.....	.....	w.	Prof. Wm. Frear.
Towanda	Bradford	754	14	68.1	− 2.8	92	30	40	5†	41	1.01	− 2.85	0.56	0.0	5	23	5	3	nw.	Hiram E. Bull, C. E.
Wellsboro	Tioga	1,327	32	66.8	− 2.1	91	30	36	5	46	0.96	− 2.69	0.63	0.0	5	17	14	0	w.	O. L. White.
West Chester	Chester	455	55	73.2	− 1.0	93	30	51	5	30	0.96	− 3.96	0.61	0.0	7	20	8	3	se.	J. C. Green, D. D. S.
Wilkes-Barre	Luzerne	575	24	71.2	− 1.6	97	30	44	5	40	1.24	− 3.04	1.12	0.0	3	11	17	3	.....	A. W. Betterly.
Williamsport	Lycoming	530	19	70.6	− 2.5	91	30	46	5	36	0.75	− 3.25	0.75	0.0	1	19	10	2	nw.	Henry H. Guise.
New Jersey.																				
Asbury Park	Monmouth	22	21	71.0	− 1.7	94	30	54	5†	29	1.07	− 4.19	0.88	0.0	4	13	15	3	w.	B. H. Obert.
Atlantic City	Atlantic	16	36	71.8	− 0.7	92	30	52	5	25	1.37	− 2.41	0.78	0.0	9	12	10	9	sw.	U. S. Weather Bureau.
Bayonne	Hudson	50	19	72.3	− 2.6	95	30	52	5	31	1.79	− 3.25	1.30	0.0	5	16	13	2	nw.	J. H. Eadie.
Belvidere	Warren	289	19	69.6	− 3.8	93	1†	42	5	42	2.77	− 2.54	1.43	0.0	6	14	15	2	.....	S. J. Hixson.
Bergen Point	Hudson	37	12	72.0	− 2.4	94	30	52	5	32	1.79	− 3.13	1.42	0.0	5	16	13	2	se.	Dr. W. H. Mitchell.
Boonton	Morris	413	19	.....	.....	.....	.....	.....	.....	.....	3.09	− 2.20	0.88	0.0	9	.....	.....	.....	nw.	F. G. McIntosh.
Bridgeton	Cumberland	30	34	74.2	− 3.0	99	30	49	4†	36	1.61	− 2.93	1.41	0.0	3	15	12	4	sw.	H. A. Jorden.
Burlington	Burlington	12	23	.....	.....	.....	.....	.....	.....	.....	1.83	− 2.81	0.75	0.0	4	.....	.....	.....	nw.	D. S. B. McCoy.
Canton	Salem	24	15	.....	.....	.....	.....	.....	.....	.....	2.11	− 2.61	.....	0.0	2	12	16	3	.....	J. H. Maskell.
Cape May City	Cape May	17	25	71.6	− 1.8	91	30	60	4*	21	1.39	− 2.39	0.71	0.0	9	12	16	3	s.	U. S. Weather Bureau.
Cape May C. H.	Cape May	19	22	72.6	− 1.5	90	30	53	10	26	1.61	− 2.50	0.80	0.0	5	13	14	4	s.	L. T. Garretson.
Charlotteburg	Passaic	719	17	67.7	− 2.4	91	14†	40	5†	42	2.42	− 2.50	1.39	0.0	6	15	13	3	w.	G. S. Briggs.
Chatham	Morris	234	7	.....	.....	.....	.....	.....	.....	.....	1.68	.....	0.60	0.0	5	.....	.....	.....	.....	M. A. Butler.
Clayton	Gloucester	126	18	73.3	− 1.8	93	12†	50	10	37	1.85	− 2.87	1.62	0.0	3	13	16	2	w.	W. T. Farley.
College Farm	Middlesex	100	14	72.2	− 2.4	94	1	47	5	35	3.45	.....	1.42	0.0	8	13	12	4	se.	G. B. Thrasher.
Culver's Lake	Sussex	848	8	.....	.....	.....	.....	.....	.....	.....	2.40	.....	1.48	0.0	6	12	17	2	nw.	B. E. Riker.
Dover	Morris	575	25	68.6	− 2.9	93	30	42	9	39	1.81	− 3.82	1.20	0.0	6	14	15	2	.....	W. C. Harris.
Elizabeth	Union	33	30	73.6	− 1.9	95	30	52	5	33	1.66	− 3.73	.....	0.0	4	14	13	4	nw.	W. M. Oliver.
Englewood	Bergen	135	23	72.2	− 0.5	93	30	56	4†	26	1.98	− 3.39	1.49	0.0	5	16	8	7	s.	W. C. Tucker.
Flemington	Hunterdon	187	21	72.0	− 3.0	94	14†	47	5	40	3.32	− 2.51	1.62	0.0	6	15	14	2	sw.	H. E. Deats.
Freehold	Monmouth	187	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. T. Cooper.
Friesburg	Salem	100	18	72.0	− 3.6	94	30	46	5	36	1.88	− 2.55	1.71	0.0	4	14	14	3	w.	H. C. Perry.
Haddonfield	Camden	75	1	73.2	.....	95	13†	48	5	36	2.27	.....	1.17	0.0	5	14	14	3	sw.	C. F. Richardson.
Hammonton	Atlantic	80	12	.....	.....	.....	.....	.....	.....	.....	2.94	− 2.07	1.73	0.0	5	.....	.....	.....	.....	Orville Bassett.
Hightstown	Mercer	85	18	72.5	− 2.2	96	30	44	5	42	2.62	− 2.83	1.56	0.0	4	17	12	2	sw.	Ernst Wenger.
Imlaystown	Monmouth	106	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. F. C. Price
Indian Mills	Burlington	76	9	72.0	− 3.5	96	30	43	10	40	2.95	− 1.27	1.85	0.0	5	17	12	2	se.	James Armstrong.
Jersey City	Hudson	15	4	74.2	.....	95	30	56	5	31	2.01	.....	1.54	0.0	4	15	14	2	s.	S. K. Pearson, jr.
Lakewood	Ocean	54	8	72.1	.....	94	1†	45	10	34	1.44	.....	0.90	0.0	3	.....	.....	.....	.....	H. R. Major.
Lambertville	Hunterdon	95	23	71.8	− 2.7	92	15†	48	5†	37	3.28	− 1.83	1.59	0.0	6	14	15	2	sw.	W. R. Bowne.
Layton	Sussex	550	10	67.0	− 3.9	94	15	36	5	46	1.52	− 2.88	1.18	0.0	5	14	15	2	sw.	W. C. Hursh.
Little Falls	Passaic	175	7	.....	.....	.....	.....	.....	.....	.....	1.63	.....	0.75	0.0	6	.....	.....	.....	w.	F. Fearns.
Long Branch	Monmouth	30	1	71.8	.....	91	30	50	5	29	1.03	.....	0.78	0.0	3	13	15	3	sw.	B. B. Bobbitt.
Mahwah	Bergen	312	7	.....	.....	.....	.....	.....	.....	.....	2.14	.....	1.16	0.0	5	.....	.....	.....	nw.	M. F. Brooks.
Moorestown	Burlington	71	47	73.2	− 1.6	94	30	50	5†	35	1.72	− 2.91	1.30	0.0	5	17	10	4	nw.	J. C. Beans.
Newark	Essex	140	65	73.6	− 0.8	94	30	53	10	29	1.57	− 3.20	1.34	0.0	5	13	13	5	sw.	Prof. Wm. Wiener.
New Brunswick	Middlesex	61	56	71.2	− 3.1	94	1†	45	5	40	4.03	− 1.04	1.45	0.0	7	14	14	3	w.	W. T. Woerner.
Newton	Sussex	678	30	69.3	− 2.6	93	30	42	5	39	2.14	− 2.67	1.30	0.0	6	13	14	4	s.	B. H. Kienbaum.
Northfield	Atlantic	.....	1	.....	.....	.....	.....	.....	.....	.....	1.50	.....	1.07	0.0	4	.....	.....	.....	.....	W. L. Flick.
Oceanic	Monmouth	16	23	71.9	− 2.5	95	30	52	5†	33	1.76	− 4.13	1.30	0.0	5	12	17	2	nw.	Prof. C. E. Dietz.
Paterson	Passaic	110	39	72.6	− 1.7	96	30	51	5†	34	2.07	− 3.35	1.57	0.0	6	10	19	2	nw.	H. A. Probert.
Phillipsburg	Warren	196	7	71.6	.....	94	1†	47	5	37	2.86	.....	1.68	0.0	5	12	17	2	w.	D. W. Smith.
Plainfield	Union	100	22	71.6	− 2.9	96	30	45	5	40	1.39	− 4.75	1.09	0.0	7	15	14	2	sw.	John Neagle.
Pleasantville	Atlantic	26	11	.....	.....	.....	.....	.....	.....	.....	1.54	− 2.61	1.26	0.0	4	.....	.....	.....	.....	L. Van Gilder.
Pompton Plains	Morris	195	7	.....	.....	.....	.....	.....	.....	.....	2.98	.....	1.30	0.0	7	.....	.....	.....	.....	M. S. Taylor.
Port Norris	Cumberland	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Barraclough.
Rancocas	Burlington	68	46	.....	.....	.....	.....	.....	.....	.....	1.68	− 3.35	1.50	0.0	5	18	8	5	nw.	Spencer Haines.
Rivervale	Bergen	70	18	67.3	− 5.1	95	13	40	6	44	2.21	− 2.49	1.75	0.0	5	13	16	2	nw.	G. S. M. Holdrum.
Runyon	Middlesex	18	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Cottrell.
Somerville	Somerset	76	30	72.4	− 1.8	97	30	47	5†	40	2.61	− 2.46	1.51	0.0	6	11	17	3	nw.	P. Hardcastle.
South Orange	Essex	200	40	70.8	− 2.3	93	30	49	9	30	2.11	− 3.09	1.56	0.0	5	11	18	2	sw.	Dr. W. J. Chandler
Sussex	Sussex	442	19	69.2	− 2.9	90	14†	44	9	36	1.70	− 2.97	1.52	0.0	3	12	17	2	sw.	Prof. W. H. Seeley.
Trenton	Mercer	60	40	72.5	− 4.2	94	30	50	10	34	2.52	− 2.91	1.46	0.0	3	13	15	3	sw.	E. R. Cook.
Tuckerton	Ocean	23	16	71.4[d]	− 3.1	95	30	44	10	36	2.44	− 1.37	1.86	0.0	4	13	13	5	sw.	F. R. Austin.
Vineland	Cumberland	118	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alfred Chalmers.
Woodbine	Cape May	43	18	71.5	− 2.2	91	30	47	5	32	2.46	− 1.49	1.43	0.0	5	14	13	4	w.	Prof. R. D. Maltby.
West Virginia.																				
Bayard[a]	Grant	2 500	6	65.2	.....	87	9	36	20	47	2.95	.....	1.77	0.0	8	18	7	5	w.	Solomon Clark.
Burlington[a]	Mineral	875	13	69.6	− 3.6	94	30	42	19	39	0.90	− 2.92	0.70	0.0	2	19	19	1	w.	J. W. Vandiver.
Franklin[b]	Pendleton	.....	3	68.4	.....	90	22	42	20	39	1.55	.....	1.18	0.0	3	25	4	0	.....	A. A. Martin.
Lost City	Hardy	.....	3	68.9	.....	89	31	46	8†	32	1.14	.....	0.60	0.0	4	16	9	6	w.	B. D. Hinegardner.
Martinsburg	Berkeley	435	18	74.0	− 1.8	96	29†	50	5†	37	1.37	− 2.92	0.70	0.0	3	21	8	2	nw.	G. W. Van Metre, C. E.
Moorefield	Hardy	900	13	71.2	− 2.6	95	30	42	20	44	1.52	− 2.33	0.75	0.0	6	9	22	0	s.	John C. Fisher.
Romney	Hampshire	824	13	72.4	− 3.1	96	29	45	8†	41	1.05	− 2.79	0.40	0.0	3	17	13	1	w.	Jno. C. Linthicum.
Upper Tract[b]	Pendleton	1,230	11	69.1	− 3.8	91	1†	38	3	42	1.00	− 2.91	0.42	0.0	4	1	26	2	w.	J. M. Mallow.
Maryland.																				
Annapolis	Anne Arundel	45	31	75.1	− 3.2	94	30	57	7	26	1.65	− 3.44	0.70	0.0	4	11	14	6	nw.	W. M. Abbott.
Bachman's Valley	Carroll	860	16	71.8	− 2.3	95	29	46	5	36	0.77	− 4.51	0.28	0.0	3	27	3	1	sw.	J. M. Myers.
Baltimore	Baltimore	115	39	76.0	− 1.3	94	30	58	5	25	1.31	− 3.51	0.96	0.0	5	12	14	5	sw.	U. S. Weather Bureau.
Cambridge	Dorchester	25	11	76.2	− 2.7	98	30	53	10	35	2.71	− 2.57	1.04	0.0	8	20	9	2	se.	T. E. Keenan.
Cheltenham	Prince Georges	230	9	73.9	.....	96	30	49	5	34	1.57	.....	1.00	0.0	5	17	10	4	nw.	J. E. Burbank.
Chester	Queen Annes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. M. Kelly.
Chestertown	Kent	80	24	73.6	− 2.3	92	30	55	5	24	2.05	− 2.11	1.05	0.0	4	22	7	2	sw.	Hon. M. de K. Smith.
Chewsville	Washington	530	12	72.4	− 2.1	95	30	44	4	39	1.10	− 2.76	0.70	0.0	3	11	20	0	se.	D. Paul Oswald.
Clear Spring	Washington	650	12	72.2	− 1.6	96	30†	49	5†	33	0.20	− 4.06	0.17	0.0	2	16	15	0	w.	W. W. Frantz.
Coleman	Kent	80	11	75.4	.....	96	30	54	10	32	1.30	− 3.28	0.76	0.0	3	23	6	2	sw.	Jas. H. Harris.
College Park	Prince Georges	170	19	73.6	− 1.7	97	30	42	4	38	1.89	− 2.76	0.78	0.0	6	.....	.....	.....	.....	Prof. H. J. Patterson.
Cumberland	Allegany	700	35	.....	.....	.....	.....	.....	.....	.....	0.77	− 2.45	0.48	0.0	6	.....	.....	.....	.....	J. W. Frantz.
Darlington	Harford	300	17	72.3	− 2.4	95	30	48	5	35	1.45	− 3.32	1.28	0.0	2	17	11	3	sw.	Prof. A. F. Galbreath.
Denton	Caroline	42	14	72.9	− 3.7	93	30	47	5	38	3.18	− 0.90	1.23	0.0	6	22	5	4	sw.	H. B. Mason.
Easton	Talbot	35	18	72.9	− 3.4	90	30	52	5	28	4.92	+ 0.46	1.55	0.0	8	25	5	1	sw.	Henry Shreve.
Emmitsburg	Frederick	720	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jno. H. Eckenrode.
Fallston	Harford	450	36	71.4	− 2.9	94	30	50	5†	29	1.21	− 3.18	0.90	0.0	5	1	27	3	se.	J. H. Curtiss.
Frederick	Frederick	275	32	74.6	− 1.6	96	29	50	5	35	1.02	− 2.82	0.48	0.0	3	16	12	3	nw.	Henry Trail
Frostburg	Allegany	1,929	8	69.4	.....	92	1	46	5†	36	1.44	.....	0.60	0.0	8	21	9	1	.....	L. B. Abbott.
Great Falls	Montgomery	200	18	73.0	− 2.9	99	29	48	20	37	1.22	− 2.96	0.48	0.0	5	12	14	5	se.	J. W. Bissett.
Green Spring Furnace	Washington	450	17	73.6	− 1.8	97	30	48	5†	40	1.27	− 2.63	0.70	0.0	3	24	6	1	w.	E. G. Kinsell.
Keedysville	Washington	400	5	73.8	.....	96	29	45	20	42	1.22	.....	0.82	0.0	5	19	12	0	s.	J. A. Miller.

TABLE 1.—*Climatological data for July, 1909. District No. 1*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Maryland—Cont'd.																				
Laurel	Prince George	150	15	72.8	− 3.1	97	30	47	5	38	1.59	− 3.25	0.55	0.0	7	14	16	1	.....	Dr. T. M. Baldwin.
Monrovia	Frederick	630	22	73.4	− 2.8	96	29	48	5†	36	0.64	− 3.81	0.53	0.0	5	22	7	2	sw.	J. H. Lawson.
Ocean City	Worcester	10		.....	.....	.....	.....	.....	.....	.....	.....	.....	0.80	0.0	.....	.....	.....	.....	.....	J. Alan Massey.
Pocomoke City	Worcester	37	16	75.9	− 2.0	94	30	57	11	25	2.41	− 1.38	0.99	0.0	5	23	5	3	sw.	R. M. Stevenson.
Porto Bello	St. Marys	38	4	76.5	.....	95	30	58	5†	29	0.84	.....	0.84	0.0	1	24	5	2	se.	Alpheus Hyatt.
Princess Anne	Somerset	17	16	72.8	− 3.0	93	30	51	10	30	1.00	− 4.03	0.63	0.0	5	1	27	3	sw.	Jas. R. Stewart.
Rockville	Montgomrey	421	2	73.2	.....	92	30†	52	5	30	0.37	.....	0.12	0.0	6	21	8	2	.....	Dr. Geo. E. Lewis.
Salisbury	Wicomico	23	4	74.4	.....	97	30	52	10†	32	2.15	.....	1.55	0.0	6	15	14	2	sw.	W. E. Downing.
Sanatorium	Frederick	.....	1	71.4	.....	92	31	50	4	30	0.31	.....	0.17	0.0	3	18	3	10	sw.	Dr. W. M. Garrison.
Solomons	Calvert	20	18	76.4	− 1.8	93	30†	59	4	24	1.44	− 3.14	0.83	0.0	6	6	14	11	se.	Dr. W. H. Marsh.
Sudlersville	Queen Annes	65	10	73.8	− 2.8	93	30†	49	5	35	2.61	.....	1.31	0.0	4	24	4	3	w.	Jas. E. Higman.
Takoma Park	Montgomery	320	11	71.8	− 3.5	93	30	52	5	33	1.48	− 3.65	0.48	0.0	9	7	19	5	.....	L. M. Mooers.
Taneytown	Carroll	450	10	72.0	− 4.2	95	29	44	20	38	0.92	− 3.72	0.42	0.0	6	25	6	0	se.	R. A. Nusbaum.
Towson	Baltimore	475	1	73.5	.....	95	30	48	5	36	0.97	.....	0.59	0.0	6	23	5	3	nw.	C. W. Treadwell.
Van Bibber	Harford	100	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Wroth.
Westernport	Allegany	1,000	15	70.2	− 2.6	93	30	45	20†	40	1.27	− 2.76	0.57	0.0	9	....	....	....	.....	Prof O. H. Bruce.
Woodstock	Baltimore	392	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. A. J. Donlon.
District of Columbia.																				
Washington	District of Columbia	112	39	74.7	− 2.1	96	29	53	5	30	1.80	− 2.85	0.61	0.0	10	15	14	2	nw.	U. S. Weather Bureau.
Delaware.																				
Delaware City	New Castle	10	7	73.9	.....	93	30	53	5	26	0.62	.....	0.62	0.0	1	28	2	1	s.	H. Morton Price.
Dover	Kent	40	21	74.0	− 2.8	95	30	49	5	35	3.85	− 1.01	3.03	0.0	4	21	7	3	sw.	Thos. F. Dunn.
Milford	Kent	20	25	74.5	− 2.3	97	30	54	10†	32	2.64	− 1.10	0.73	0.0	10	22	6	3	se.	C. J. Holzmueller.
Millsboro	Sussex	20	17	73.2	− 3.1	98	30	50	5	34	1.58	− 3.48	0.60	0.0	6	23	3	5	sw.	Rev. L. W. Wells.
Seaford	Sussex	40	16	.....	.....	....	....	54	10	....	1.87	− 3.27	0.96	0.0	7	25	4	2	sw.	E. B. Brown.
Virginia.																				
Culpeper	Culpeper	450	....	74.8	.....	98	29	49	8	39	0.94	.....	0.42	0.0	6	11	19	1	s.	Col. H. C. Burrows.
Dale Enterprise	Rockingham	1,350	30	70.4	− 3.6	95	29	44	8	41	2.36	− 2.05	0.85	0.0	11	10	19	2	sw.	Rev. L. J. Heatwole.
Doswell	Hanover	134	8	74.0	.....	97	31	52	6	36	.....	.....	.....	0.0	....	22	5	2	s.	R. F. & P. R. R.
Fredericksburg	Spottsylvania	100	20	74.6	− 2.6	98	29	49	8	38	2.36	− 2.30	1.80	0.0	8	19	11	1	se.	S. G. Howison.
Lincoln	Loudon	500	8	75.2	− 0.9	100	29	44	8	47	0.69	− 3.56	0.35	0.0	4	13	17	1	nw.	Dr. George Roberts.
Mt. Weather	Loudon	1,500	5	69.6	− 1.8	89	29	48	4	23	0.97	− 3.69	0.62	0.0	5	16	12	3	nw.	U. S. Weather Bureau.
Nokesville (near)	Fauquier	350	5	73.6	.....	95	29	55	4†	30	0.78	.....	0.34	0.0	3	12	17	2	.....	Andrew Low.
Quantico	Prince William	16	12	75.4	− 1.5	95	29	52	8	35	0.73	.....	0.72	0.0	2	29	0	2	nw.	R. F. & P. R. R.
Shenandoah	Page	937	8	.....	.....	.....	.....	.....	.....	.....	1.33	− 2.48	0.63	0.0	5	30	0	1	sw.	N. & W. Ry.
Staunton	Frederick	1,380	17	71.9	− 2.3	92	31	50	19†	32	1.95	− 1.76	0.51	0.0	11	19	11	1	sw.	Western State Hospital.
Stephens City	Frederick	710	17	73.2	− 2.6	98	29	40	9	47	1.06	− 3.12	0.58	0.0	4	24	6	1	w.	B. T. Argenbright.
Warsaw	Richmond	160	17	72.5	− 5.2	93	29†	51	8	34	2.25	− 2.68	1.38	0.0	7	14	14	2	s.	C. H. Constable.
Woodstock	Shenandoah	927	13	73.6	− 1.5	96	15†	47	20	39	1.54	− 1.94	0.70	0.0	8	13	17	1	w.	Miss A. G. Miley.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ ‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 1, North Atlantic States.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maine.																																	
Bar Harbor	Coast	T.	T.	1.20	.03		.10	T.	.35	T.		T.	.03			.03	.23	.01			.10	.03		T.	.03						.50		2.66
Cornish	Saco			1.03		T.		.08	.15							T.	.48	.38	T.	.01	T.		08		.32						.40		3.13
Danforth	Penobscot	T.		.35	.25	.05	T.	.03	.55			.10					.10	.54			.05				T.				T.				2.02
Debsconeag	do.			.07		.02			.30			.20					1.30			.46						.25							2.60
Eastport	Coast	.04		.43	.07	.03			.47	T.		T.	.02			.02	1.23	.10						.10	.33						.53		3.37
Fairfield	Kennebec			.50					.26								.75								.18				.08			1.77
Farmington	do.		.04	.63	T.				.03								.85	.02		.20					.20					.08		2.05
Gardiner	do.			.90			.04	T.	.53								.05	.05		.33					.12					.17		2.19
Greenville	do.	.14		.67	.03	.03			.08			.18		T.			1.17	.06	.03	.76			T.		.19	T.				T.		3.34
Houlton	St. John			.03			.05	.01	.09			.02					.95				1.00											2.15
Lewiston	Androscoggin			.97			.16	T.	.08			T.					.42	.01		.57					.26							2.47
Madison	Kennebec	.12		.59	T.			.03	.21			.14					.78	.01	.10	.03					.15				.09			2.25
Millinocket	Penobscot		.13	.05	.50		.05		.08	.32		.10	.10				.03	1.13		.05	.08	.38			.01	.08						3.09
North Bridgeton	Saco			.80			.08		.04			.01					.45	T.	.15				.02		.40	T.				.05		2.00
Orono	Penobscot	.46		.36	.06	T.		.08	.31			.01					.39	.25		.24					.11				.10	T.		2.37
Oquossoc	Androscoggin	.40			.80												1.00			.80												3.00
Patten	Penobscot	.06		.86		.50	.07		2.00	.06			.30	.18			1.25	.27		.25	.13				.29		.28					6.42
Portland	Coast			.93		T.	.04		.26								.02	.32	.04	.17	.01			.02	.15					.18		2.14
Rumford Falls	Androscoggin			.67								.16					.70			.51				T.	.30							2.34
The Forks	Kennebec	.10	.35	.67				.20				.28		.20			.60		1.10													3.50
Van Buren	St. John	.20		.30	.70				.50			.30	.20				.50	.50	.10	1.30				.10	.10	.60				.20			5.60
Winslow	Kennebec	.66					.14		.24								.68	.01		.10					.10					.02			1.95
New Hampshire.																																	
Alstead Center	Connecticut			.83		.02	.03					T.				.05	1.30	.02	.22					.77	.19					T.		3.43
Benton	do.																																
Bethlehem	do.			.46			.20	T.	.05			.12		T.			1.14	.15	.19	.05					.07	T.				.70		3.13
Brookline	Merrimac			.90		.04	T.	T.	T.								.25		.04					.64		T.				T.		1.87
Concord	do.			1.04		.01	.20		T.							.06	.09	T.	T.		T.			.40	.27					.07		2.14
Durham	do.			.71			.27		.13								.15		.07						.22					.14	.04	1.73
Franklin	do.			1.05				.01								.07	1.01	.07	.06					.12	.60	.01				.08	T.	3.08
Grafton	do.			.80			.15		T.							.18	.21	.12	.01					.10	.15					.21	.10	2.03
Hanover	Connecticut						.10										.02	.01	.15	.01				T.	.17					.01	.11	0.58
Keene	do.	.02		.65		.02	T.										.07	.16	.02	.03				.12	.39						T.	1.48
Nashua	Merrimac		T.	.84			T.		T.								.73		.13					.38	.09						T.	2.17
Newton	Merrimac			.74		T.	.06		T.					T.			1.16	T.	.10	T.				.05	.28					.10	T.	2.49
Plymouth	do.			.75	.09	T.	T.		T.			.04					.39	.90	.08					.20	.24					T.	T.	2.69
West Ossipee	Saco			.80			.10											.70		.10					.10					.10		1.90
Vermont.																																	
Bloomfield	Connecticut		.07	.25	.20		.05		.04			.45					.43	.08		.68					.09	.03					.88		3.25
Cavendish	do.			.75		.12	.11									.18	.25	.11	T.	.08				T.	.38						.01	.06	2.05
Chelsea	do.			.58								.15					.28	.12	.22	.08				.05	.25						.35		2.08
Jacksonville	do.		.35	T.		.01											.50	T.	.02					.35	.45								1.68
Manchester	Hudson			.65		T.	T.									.10	.21	.35	.31	.24				.11	.11	T.							2.08
St. Johnsbury	Connecticut			.46	T.		.23					.20					.34	.93	.13	.16	.06				.10				T.	.22	T.		2.83
Woodstock	do.		.56				.17										T.	T.	.33					.43	.09					.39	.30		2.27
Massachusetts.																																	
Amherst	Connecticut		T.	.30		T.	.02							T.			1.50		.04					.24	.14								2.24
Ashland	Merrimac			.15			.18		.02								.16		.43					**	.30								1.24
Bakers Bridge	do.			.55													1.29	.20		.50				.20	.38								3.12
Bedford	do.	.02		.39	T.	T.	T.	T.									2.02	.13	.28	.02		.02		.06	.30					.28			3.52
Blue Hill	Coast			.10	T.	.01	.15		.01					.01			.01	.18	.56	.15				.06	.04					T.			1.28
Boston	do.	T.	T.	.20	T.		T.						T.				.31	T.	.39	.04				.03						T.			0.97
Chestnut Hill	do.	.02		.21			.05										.29		.37	.06				**	.10								1.10
Clinton	Merrimac			.33		.02	.09										2.73	.02	.36				.05	**	.43								4.03
Concord	do.	T.	.07	.43	.04	T.	.01						T.				2.07	.26	T.	.36		T.		.15	.37					T.			3.76
Fall River	Coast			.02			.18												.03					.15	.05								0.43
Fitchburg	Merrimac			.62		.04	.02						T.				.90	.14	.19	T.			.04	.12	.41						T.		2.48
Framingham	do.			.14		.01	.20										.30		.36				.02	**	.60								1.63
Haverhill	do.			.76			.03			T.							.34	.18		.13					.26					.10			1.80
Hingham	Coast			.20	T.	T.	.13						T.	.16			.01		.21	T.				T.	.06					T.			0.77
Hyannis	do.			.12			.14		.01								.13							.15									0.55
Jefferson	Merrimac			.17			.23										2.56		.54				1.04	.64						.11			5.29
Lake Cochituate	do.			.15			.17	.02									.52		.48					.39									1.73
Lawrence	do.		T.	.68	T.	T.	T.	.01	T.								1.34		.16					**	.20				T.	.23			2.62
Leominster	do.			.50		T.	.01										2.00		.22					.15	.47						.01		3.36
Lowell	do.			.59													1.45		.21					.24						.03			2.52
Middleboro	Coast	T.		.03	.08		.44		.01								.49		T.	T.				.14						.14			1.33
Monson	Connecticut																																
Nantucket	Coast	.03		.05			.11	.01	.22								T.		T.	T.				.51	.05								0.98
New Bedford	do.																																
Norfolk	do.			.11		T.	.40		.06					.10			T.	.03		.11		T.	T.	.06	.09					.03			0.99
Northampton	Connecticut			.09			.07							.04			.87		.13						.37								1.57
Plymouth	Coast			.02			**	.86	T.								.56		T.				**	**	.23					.22			1.89
Princeton	Merrimac			.32			.08										1.52		.46				**	**	1.68								4.06
Provincetown	Coast			T.			.41		.18															.28							.10			0.97
Rockport	Coast			1.45			.10										.52			.55					.10						.25			2.97
Rutland	Connecticut	T.	T.	.28		T.	.22		T.							T.	3.09	T.	.43	T.	T.	.01	.52	.52					T.	.10	.01		5.18
Salem	Coast			.34			T.										1.25	.26		.38					.03					.34			2.60
Somerset	Coast	T.		.06	.01		.13		.03										.03	.04				.14						.10			0.54
Spot Pond	Coast	.01		.26	.05		.01										1.30		.33	.14				.13						.04			2.27
South Egremont	Housatonic		.12				.06										1.40		.50					.49	.02					.18			2.77
Sterling	Merrimac			.29													2.45		.35					**	.50								3.59
Taunton	Coast			.04	T.		.48		.26								.41		.20		T.		T.	**	.15					.62			2.16
Turners Falls	Connecticut			.58		.08	T.	T.								T.	.49		T.						.53				T.				1.68
Westboro	Merrimac			.15			.17		T.								.44		.38				T.	**	.51								1.65
Williamstown	Hudson			.76				.06									.16	.06	.02	.10				.17	.15	T.				.03			1.51
Winchendon	Connecticut			.70													1.20		T.					.14	.62								2.66
Worcester	Coast			.09		T.	.25						T.				.15		.21	T.			.05	.20	.19					T.			1.14
Rhode Island.																																	
Block Island	Coast	.02		.14			.16		T.								T.		.17					.44						T.			0.93
Bristol	do.			T.		T.	.36		T.										.04					.14						.04			0.58
Kingston	do.	.48		.12			.05										.05		.21					.60									1.51
Narragansett Pier	do.	.57		.03			.02										.05		.19					.30									1.16
Pawtucket	do.		.05		T.		.16		T.								.27		.45					**	.27					.06			1.26
Providence	do.	T.		.03			.13							T.			T.		.31	T.		T.		.09	.02					T.			0.58
Connecticut.																																	
Bridgeport	Coast			T.									T.	.03			.01		.04					1.73	.09								2.50
Canton	Connecticut						.03							.02			.62		.73					.93	.02					.93			3.25
Colchester	Coast	.04		.09			T.							T.			.05		.35					.50						.20			1.23
Cream Hill	Housatonic						.02										.61		.37					.59	.15	.02				.61			2.37
Danielson	Coast			.05			.35										.34		.42					.16									1.32
Falls Village	Housatonic		T.				T.										.51		.40					.60	.06					.43			2.00
Farmington	Connecticut						T.										.06		.21					1.18						.12			1.57
Hartford	Connecticut	T.	T.				T.						T.	.01			.11	.01	.30					.79	.01					.36			1.59
Hawleyville	Housatonic																	.08	.55					1.28	.30								2.21

TABLE 2.—*Daily precipitation for July, 1909. District No. 1*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Connecticut—Cont'd.																																	
Lake Konomoc	Coast			.04			.18						T.	.03		T.	.01		.40	T.				.60						.11		1.36
New Haven	do						.18		T.				T.			T.			.40	T.				.80						T.		1.42
New London	do	T.		.10			.65						T.			T.			.47					.66						.46		2.34
North Grosvenordale	do			.15			.25		.01					.15			.35		.37	T.				.10						.02		1.40
Norwalk	do													.12					.45				1.39								1.96
Southington	do						T.							T.			.55	.10	.35					.80	.20					.50		2.50
South Manchester	Connecticut													.08			.17		.13					.39						.26		1.03
Storrs	Coast						.32										T.		.21					.31								0.84
Torrington	Housatonic																															
Voluntown	Coast	T.		.10															.15	.38				.51								1.04
Wallingford	do		.03				.43									T.	T.		.25					.77						.04		1.52
Waterbury	Housatonic			T.			.08									T.	.29		.28					.75	.10					.06		1.56
West Simsbury	Connecticut			T.			T.						T.	.03			.19		.98					.73						.22		2.15
New York.																																
Addison	Susquehanna												T.				.09		.26				.02	.61	.06							1.04
Albany	Hudson		T.	.49										T.		.03	.34		.12	T.			T.	.54	.17	T.		.05		T.	T.	1.74
Amsterdam	Mohawk			.83		T.	T.							T.		.04	.40	T.	.40	.08			T.	1.05	.20	T.			T.			3.00
Athens	Hudson			.06			.04							T.		.06	.40		.20	.08				1.02	.04	T.		T.	T.	T.	T.	1.90
Ballston Lake	Hudson			.77			T.		T.					T.		.65	.37	.02	.28	.08				.90	.09				T.			3.16
Bedford	Coast			T.										.05		T.	T.		.48	.01				2.01	.15					.08		2.78
Binghamton	Susquehanna			.07										T.		T.			.40				.05	.31	.17	T.		.07	T.			1.07
Bouckville	Susquehanna			.55													.41		.36	.33				1.01	.22	.07			.10			3.05
Boyd's Corners	Hudson																															3.17
Carmel	do																.16		.62					1.56	1.09							3.43
Chatham	do			.10			T.							T.		T.	.98		.20	.01				.37	.22				.01			1.89
Cooperstown	Susquehanna			.88	.02											.98	.27		.52	.18			.35	1.50	.08	.04		.13		.70		5.65
Corinth	Hudson			.50												.50	.10							.90	.10							.10	2.20
Cortland	Susquehanna			.35								T.					.60		.20					.52	.56	.22				.17			2.62
Cutchogue	Coast				T.														.02	.29				.87	.04						.03		1.25
De Ruyter	Susquehanna			.40									T.				.49		.40	.11			T.	.75	.46	.64		.70		.60			4.55
Easton	Hudson			.57		T.	T.									.73								.47									1.77
Elmira	Susquehanna															.04			.32				.02	.68	.40								1.46
Fort Hunter	Mohawk			.40												.40	.50		.20	.20				1.00	.30								3.00
Fort Plain	do			.83					T.					T.		T.	1.35	T.	.46		.08		.01	1.22	.32				T.				4.27
Glens Falls	Hudson			.62		.10	.06					T.			T.		.24	T.	T.	T.				T.	.32	.22	.10					.20	1.86
Gloversville	Mohawk			.86		T.	T.									T.	1.95	.02	.32	.13				1.45	.14	T.							4.87
Greenfield Center	Hudson			.62													.85		.25	.05				.85	.25							.20	3.07
Greenwich	do			.55		.08										.03	.55	T.	.14	.02				.11	.09						T.		1.57
Griffin Corners	Delaware			.03												.01	.02		.17		.06			.79		.02				.02			1.12
Hancock	do																																2.02
Haskenville	Susquehanna			T.											.13		.05			.42			.27	.18	.20			.06					1.31
Hoosick Falls	Hudson		T.	.78	.11												.33	.11	.08	.34	.04				.21	.05	T.						2.05
Indian Lake	do			.60			.10					.20					.20		.20	.15				.50	.30						.10		2.35
Jeffersonville	Delaware			T.												.42	.08		.20				T.	1.42	T.	T.			T.			2.12
Lake Pleasant	Hudson																																
Liberty	Delaware															T.	T.	T.	.45				.20	1.45		T.				T.			2.10
Little Falls	Mohawk			.66									T.			.31	1.15		.12	.07			T.	1.19	.61	.10				.42			4.63
Mohonk Lake	Hudson														.26		.31								1.67								2.24
Morehouseville	Mohawk		1.20													.15	.09	.14	.36	.54	.02			1.08	.64	.15				.20	.02	.26	4.85
Mount Hope	Coast			T.			T.							T.		.10	.35		.40					1.40	.55					.30			3.10
Newark Valley	Susquehanna			T.													T.		.52					.60	.20	T.				.33			1.65
New Berlin	do			.36													.34	.30	.32	.09				.70	1.14	.01			.01		.04		3.31
New Lisbon	do			.30												.45	.89		.16	.19				1.34	.28					.14			3.75
New York City	Coast			.01									T.	.01			.38						T.	1.56							.02		2.56
North Creek	Hudson			.61		.07	.07												.40						.97								2.12
Northville	do		.51													.30	.05		.12					1.32									2.30
Norwich	Susquehanna																.93	.22		.18	.01			1.12	.01						.48		3.95
Oneonta	do			.27												.20	1.12		.05	.04				.91	.32					.06			2.97
Oxford	do			.10											T.	T.	.48		.22				T.	1.40	.20	T.			.35				2.75
Port Jervis	Delaware																.15		.22				.02	.92	.06								1.37
Salisbury	Mohawk			.78								.03				T.	.63	.14	.26	.20				2.06	.55	.20				.04	.08		4.97
Salisbury Mills	Hudson																.20		.70					1.15									2.05
Scarsdale	Coast						T.						T.	.02			.37		.49					1.63	.20						.75		3.46
Setauket	do			T.				T.					T.	.05			T.		.89					1.50	T.								2.44
Sherbourne	Susquehanna																																
Southampton	Coast			.01															.72					1.62	.13					.06			2.54
Southeast Reservoir	Hudson																																2.83
Spier Falls	Hudson			.63		T.	.15								T.	.60	T.		T.					.73	.20	.02							2.33
Trenton Falls	Mohawk			.75	.04							.04	.10				T.	T.	T.	.36	.02		T.	.35	1.50	.31						T.	3.47
Tribes Hill	do			.80													.90		.30	.10				1.00	.30								3.40
Utica	do			.56									.04				.07	.29		.15	.10			.31	1.00	.29					.22		3.03
Wading River	Coast							.01												.70				.95	.03					.02	.03		1.74
Wappingers Falls	Hudson			T.			T.							T.			.62		.84				T.	1.02	.22						T.	2.70
Warwick	do																		.75				.16	.86						T.		1.77
Waverly	Susquehanna			.01															.38	.03			.05	.50	.17				.02			1.16
West Berne	Mohawk			.59												.40	.66		.15	.05			T.	.79				.26			T.	2.90
West Point	Hudson															.20		.40						.50	.80					.10		2.00
Windham	Mohawk			.16			T.									.22	.35	.05	.18					.77				T.	T.			1.73
Pennsylvania.																																
Altoona	Susquehanna												T.	T.	.08	.02	.28					T.	.75	.30					.91	.03	T.	2.37
Ansonia	do											T.				T.	.24	.08	.10	.04			.02	.70	.11							1.29
Bellefonte	do															.15	.42	.13				.60								.04		1.34
Browers Lock	Schuykill													T.			.30	T.					**	**	1.55							1.85
Center Hall	Susquehanna															.18	.28	.17				T.		.60	.03				.02	.25		1.53
Clearfield	do													T.	.15	.03	.03					T.	T.	2.02	.10			.04	15.			2.52
Coatesville	Coast																.56		.07					.53								1.16
Doylestown	Schuylkill																.35							1.54								1.89
Drifton	Susquehanna															.40			.10				.10	1.10	.15			.04	T.	.15		2.04
Dushore	do				.25						.30									.28										42			1.25
Easton	Delaware															**	1.07						**	**	1.93			.02				3.02
Emporium	Susquehana													.28	.10				.03			.07	T.	.95	.42			.10	T.			1.95
Ephrata	Susquehanna													T.										2.27				.35		.08		2.70
Everett	Juniata			T.											.47	.38			.03					.66				.10		.10		1.74
Forks of Neshaminy	Delaware																	.16					.10	1.03	.78			.41				2.48
George School	do																.01						.14	.87	.13			.10				1.25
Gettysburg	Potomac						T.							.03		.09			T.			T.	T.	.27				T.		.46		0.85
Girardville	Susquehanna														1.32	.50			.08					**	1.39			.07		T.			3.36
Gordon	do															.82	.21		.20	T.				.06	.71	.74							2.74
Hamburg	Schuylkill																.27							.42	.84								1.53
Hanover	Susquehanna						T.							.05	.02				T.					T.	.52					.18			0.77
Harrisburg	do													T.	T.	T.	T.		.10					.25	.41			T		.10		T.	0.86
Huntingdon	Juniata														.64	.26	T.	T.	.02			.05			.60			T		.08			1.65
Hyndman	Potomac												.03	.08		.64	.07		.17			T.	.92	.29	.03			T		.03	T.		2.26
Kennett Square	Coast															T.	.14		.05					**	.72			T		T.			0.91
Lansdale	Schuylkill																	.90					.80	.23	.46								2.39

TABLE 2.—*Daily precipitation for July, 1909. District No. 1*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Pennsylvania—Cont'd.																																	
Lawrenceville	Susquehanna															.80	.20		.35			T.	.15	.80									2.30
Lebanon	do.													T.		T.	T.		T.				.05	.77				T.	.01		.04		0.87
Le Roy	do.																	.01	.36				.10	.41	.10			.01		T.	.03		1.02
Lewisburg	do.																.05		.10					.80						.05			1.00
Lock Haven	do.																.01					T.	1.07	.09						.10			1.27
Marion	Potomac													.13	.08	.61								.31							.10			1.23
Mauch Chunk	Delaware															.40	.06							1.80	.20									2.46
Mifflintown	Juniata														.11	.01	.31							.51				.63		.24				1.81
Milford	Delaware															.02	1.58		.74		.01		.04	1.47				.47			T.			4.33
Montrose	Susquehanna																		.82					.61	.20									1.63
Mountain House	Juniata														.30	2.05						T.		.73	.03					.08			3.19
New Germantown	Susquehanna												T.	T.	.17				.37					.64							.13			1.31
Ottsville	Delaware																1.19		.07				.13	1.20							.04		2.63
Philadelphia (1)	do.							T.							T.	T.	.92		.05				.15	1.07						T.			2.19
Philadelphia (2)	do.													.02	T.		.85	.25	.03				.10	.96	.10								2.31
Philadelphia (3)	do.													.08			.62	.01	.47	T.			.13	1.00	.66								2.97
Pocono Lake	do.															1.04	.35		T.					1.72	.04			.08					3.23
Point Pleasant	do.																.74						.10	1.11	.12						.08		2.15
Pottsville	Schuylkill																.38		.02					1.53				.42			.08		2.43
Reading	do.															.14							.02	.99				.05			.02		1.22
Renovo	Susquehanna																.15			T.				1.00	.03								1.18
Scranton	do.															1.01	.01		.07				.19	.68	.07			T.		.20	T.		2.23
Seisholtzville	Schuylkill																.29						.04	1.06				.18					1.57
Selinsgrove	Susquehanna																.17							.53	.05				.37				1.12
Shawmont	Schuylkill													.05			.45		.15				.05	.82	.16								1.68
Smiths Corners	do.																.64						.11	1.10	.12								1.97
Spring Mount	do.													.02			.52						.05	1.02	.18			.17			.01		1.97
State College	Susquehanna													T.	.14	1.50						.02	T.	.48						.17	T.		2.31
Towanda	do.			T.										.05			T.		.07				.15	.56	.18			T.					1.01
Wellsboro	do.															T.		.09	.14				.25	.38	.10								0.96
West Chester	Coast																.04		.03				.06	.61	.01					.20	.01		0.96
Wilkes-Barre	Susquehanna															T.							**	1.12				.12		T.			1.24
Williamsport	do.															T.	T.		T.			T.		.75									0.75
New Jersey.																																	
Asbury Park	Coast												.02	T.			.15						.02	.88									1.07
Atlantic City	do.						.22						.04	T.	.11		.13		.05				.04	.76					.01	.01			1.37
Bayonne	do.			T.									T.	.01		T.	.19						.05	1.30						.24			1.79
Belvidere	Delaware															.88	.13						.07	1.43				.14		.12			2.77
Bergen Point	Coast												T.	T.		T.	.16		.05				.11	1.42						.05			1.79
Boonton‖	Passaic						.42									.10	.03		.18	.05			**	.77	.88					.66			3.09
Bridgeton	Coast						.05								T.								.15	1.41									1.61
Burlington‖	Delaware															.05	.43		T.				.75	.60									1.83
Canton	Coast						T.								T.	T.			T.				**	2.11						T.			2.11
Cape May City	do.		.22				.21	T.					.02	.05			.03		.01				.12	.71							.02		1.39
Cape May C. H.	do.						.64						.02	T.	.12		T.						.03	.80									1.61
Charlotteburg	Passaic						.39									.04			.40				**	1.39				.20		T.	T.		2.42
Chatham‖	do.						.32									.04	T.						**	1.10						.22			1.68
Clayton	Coast						T.							T.	.08		T.		T.				.15	1.62									1.85
College Farm	do.						.94	T.					T.	.01			.88		.03				.03	1.42				.11		.03	T.		3.45
Culver's Lake	Delaware															.03	.05		.15		T.		.07	1.50						.60			2.40
Dover	Passaic															.12	.10		.11				**	1.20						.28			1.81
Elizabeth	Coast			T.									T.	T.		T.	.06		T.				**	1.55						.05			1.66
Englewood	do.			.01									T.	.03			.42						T.	1.49						.03			1.98
Flemington	do.			T.										T.		.44	1.62		.02				.14	1.07				T.		.03			3.32
Freehold	do.																																
Friesburg	Coast						.05								.05		T.						.07	1.71									1.88
Haddonfield	Delaware														T.	.85	.01		.12				.12	1.17						T.			2.27
Hammonton	Coast						T.						.19				.20		T.				**	2.37	.18								2.94
Hightstown	Delaware															1.41	.15						**	1.06									2.62
Imlaystown	do.																																
Indian Mills	Coast												.11		T.		.60		.33				.06	1.85									2.95
Jersey City	do.			.01										T.		T.	.36		T.				T.	1.54						.10			2.01
Lakewood	do.																.35						.19	.90			T.						1.44
Lambertville	Delaware													T.		.59	.82		.14				.11	1.59						.03			3.28
Layton	do.															.01			.28				.04	1.18						.01			1.52
Little Falls‖	Passaic						.02									.04	T.		.12				.30	.75	T.					.40			1.63
Long Branch	Coast						T.						T.			T.	T.		.25				**	.78						T.			1.03
Mahwah‖	Passaic																.03		.25				**	1.66						.20			2.14
Moorestown	Delaware	T.												.02	T.	T.	.21		.10				.09	1.30									1.72
Newark	Passaic	T.					T.							T.		T.	.01		.02				.03	1.34						.17			1.57
New Brunswick	Coast						.45									T.	1.28		.25				.10	1.45				.35		.15			4.03
Newton	Delaware															.06	.37		.13				.10	1.30						.18			2.14
Northfield	Coast						.19								.18								.06	1.07									1.50
Oceanic	do.						T.										.05		.15				.18	1.30						.08			1.76
Paterson	Passaic						.04							T.		.03	T.		.19				.20	1.57						.04			2.07
Phillipsburg	Delaware															.89	.10						.15	1.68				.04		T.			2.86
Plainfield	Coast			T.										.01		.01	.13		T.				.12	1.09	.02					.01			1.39
Pleasantville	do.						.15								.10								.03	1.26									1.54
Pompton Plains‖	Passaic						.17									**	.14		.37				**	2.06						.24			2.98
Port Norris	Coast																																
Rancocas	Delaware	T.					T.							.01		T.	.14		.03				.10	1.40						T.			1.68
Rivervale	Coast						.18									.03			.20				T.	1.75						.05			2.21
Runyon	do.																																
Somerville	do.															.73	.78		T.				.10	.80	.13			T.		.07			2.61
South Orange	do.						T.									T.	.03		T.				.15	1.56	.01					.36			2.11
Sussex	Hudson															T.	T.		.09				**	1.61									1.70
Trenton	Delaware					T.								T.		1.46	T.						.21	.85				T.					2.52
Tuckerton	Coast						.03										.55						**	1.86									2.44
Vineland	do.																																
Woodbine	do.		.31	T.			.55						T.		.12								.05	1.43									2.46
West Virginia.																																	
Bayard	Potomac												.07	.24			.11		.09			T.		.41	.11			T.	T.		1.77	.15	2.95
Burlington	do.													T.		.20	T.	T.							.70									0.90
Franklin	do.												T.		T.					.10								.27		1.18			1.55
Harpers Ferry‖	do.															T.				.10					.30					.10	.10		0.60
Lost City	do.			T.			.07								T.	.39			T.				T.	.08				T.			.60	1.14
Martinsburg‖	do.							T.							T.				.45			T.		.70						.22			1.37
Moorefield	do.						T.						T.	T.	.15	.35	.09		.07			T.		.75				.11	T.	T.	T.		1.52
Romney‖	do.						T.											.27		T.				.38								.40	1.05
Upper Tract	do.						T.						.20			T.	T.		T.					.31				.07			.42			1.00
Maryland.																																	
Annapolis	Coast						.10							.45					.70					.40										1.65
Bachman's Valley	do.						T.						T.				.23						T.	.28					T.	T.	.26		0.77
Baltimore	do.						T.							.03	.01	.96	T.		T.			T.	T.	.28			T.	T.			0.3		1.31
Cambridge	do.						.59	.03						.45		.36	.11	.13						.82	.22									2.17

TABLE 2.—*Daily precipitation for July, 1909. District No. 1*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Maryland—Cont'd.																																	
Cheltenham	Coast						.11								1.00			.06						.10				T.			.30		1.57
Chester	do																																
Chestertown	do						.08							T.	.16			T.					T.	.76	1.05								2.05
Chewsville	Potomac														.70	T.	.19		T.			T.		.21						T.			1.10
Clear Spring	do														.03				T.			T.	.17	T.				T.			T.		0.20
Coleman	do						T.							.42	T.		T.		T.				T.	.76							.12		1.30
College Park	do						.09							.30	.18	.78		T.		T.					.30			T.			.24			1.89
Cumberland	do												**	.07		**	.08	.03	**	.04		**	.07	.48					**	T.			0.77
Darlington	Coast			T.			T.	T.						T.	T.		T.						T.	1.28							.17		1.45
Denton	do						.11								.48		.09	.10						1.23	1.17								3.18
Easton	do						.22							.20	.94		.09	1.46					.52	.77	.72								4.92
Emmitsburg	Potomac																																
Fallston	Coast						.07							T.	T.	.03			T.				T.	.90	.02						.19		1.21
Frederick	Potomac						T.						T.	T.	.48	T.	.14		T.	T.		T.	T.	.40				T.		T.			1.02
Frostburg	do												.06	.10			.08	.01	.45					.60				.05		.09			1.44
Great Falls	do						.08	.03							.28		.35															.48	1.22
Green Spring Fur	do														.70							T.		.22							.35	1.27
Keedysville	do						T.							.07	.18	.14	T.		T.					.82				T.		.01		T.	1.22
Laurel	Coast		T.				.05								.55	.21				.11			.06	.08						.53			1.59
Monrovia	Potomac						.02								**	.03			.05			**	.01	.53				T.					0.64
Ocean City	Coast														.17								.04	.80	.10								
Pocomoke City	do						.27								T.		.02	.20						.99								.93	2.41
Porto Bello	do															.84																	0.84
Princess Anne	do						.17	.02										.16	T.				T.	.63	.02								1.00
Rockville	Potomac						.12							.03		.05	.10			T.			.01	.06									0.37
Salisbury	Coast						.24	.03							1.55			.10		T.			.13	.10									2.15
Sanatorium	Potomac						.04									.10	T.						T.	.17				T.	T.		T.		0.31
Solomons	Coast						.02							.40		T.	.15	.03	.01				T.	.83				T.				T.	1.44
Sudlersville	do		.60				.15							T.	.55	T.	T.		T.				T.	1.31									2.61
Takoma Park	do						T.	.14						**	.48	.30	.20	.10		T.			.05		.13						.03	.05	1.48
Taneytown	Potomac						.05							.01	**	.42	.17					T.	.01	.26					T.				0.92
Towson	Coast						.06							T.		.18	.03		T.	T.			.01	.59				.10		**	T.		0.97
Van Bibber	do																																
Westernport	Potomac												.09	.02			.13		.22			.03		.57				.14		.03	.04		1.27
Woodstock	Coast																																
District of Columbia.																																	
Washington	Coast						.19							.24	.09	.01	.42		.02			T.	.04	.61						T.	.14	.04	1.80
Delaware.																																	
Delaware City	Coast														T.		T.						T.	.62									0.62
Dover	do		.35				.22								.25								T.	3.03									3.85
Milford	do		.74				.10	.08							.31		.04	.03		.02			.04	.73	.55			T.					2.64
Millsboro	do						.16	T.						.21	.60	T.	.03						.02	.56									1.58
Seaford	do						.09	.10						**	.96	.08	**	.04					T.	.51	.09								1.87
Virginia.																																	
Culpeper	Rappahannock	.02					.10								.42				.10				T.					.05			.25		0.94
Dale Enterprise	Shenandoah	.01					.21						T.	T.	.85		.08		.04			T.	.15	.05	T.			.24	.47	.23	.03	T.	2.36
Daswell	Coast																																
Fredericksburg	Rappahannock						.15								.08	T.	1.80	.05	.04				.05	T.				.04			.15		2.36
Lincoln	Potomac						.16												.08					.35								.10	0.69
Mt. Weather	do					T.	.08						T.	T.	.01	T.	T.		.09			T.		.17						T.	.62	T.	0.97
Mokesville	do						.34							T.	.30	T.								T.							.14		0.78
Quantico	do						T.																					.01			.72		0.73
Shenandoah	Shenandoah						.09								.63									.08						.12		.41	1.33
Stanton	do	.13				T.	.35	.02							.18		.04			.04				.02				.51		.15	.17	.34	1.95
Stephens City	Potomac													.13										.07						.58	.28		1.06
Warsaw	Rappahannock						.38							T.	T.	1.38		.35		.07			T.	.02				.03			.02	T.	2.25
Woodstock	Shenandoah	.45				.10								.07			.02							.03					.70	.12		.05	1.54

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 1, North Atlantic States.*

Date.	Maine.												Concord, N. H.		Massachusetts.								Providence, R. I.		Connecticut.			
	Eastport.		Greenville.		Orono.		Portland.		Rumford Falls.		Van Buren.				Amherst.		Boston.		Middleboro.		Nantucket.				Cream Hill.		Hartford.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	76	49	70	53	79	55	81	58	77	55	70	54	80	60	83	63	84	68	86	63	68	61	87	66	84	56	87	65
2...	66	51	63	47	79	49	68	57	63	50	62	59	70	58	76	58	76	62	77	52	70	58	79	60	78	63	78	64
3...	54	47	55	40	67	48	70	54	65	50	62	49	70	54	70	56	76	58	77	57	75	59	75	57	79	60	74	59
4...	65	48	64	49	72	50	67	51	67	50	.....	.....	69	52	72	51	73	56	73	49	71	56	73	53	68	52	72	56
5...	66	49	62	41	71	44	74	50	68	46	72	37	73	43	77	44	78	56	77	41	71	57	77	52	70	47	78	53
6...	69	48	69	38	74	42	70	53	70	45	73	49	70	50	78	51	77	60	79	46	71	58	79	57	74	50	79	55
7...	65	46	72	35	77	43	72	54	76	47	83	44	78	46	79	51	71	58	75	49	68	57	75	56	75	54	77	53
8...	61	45	66	41	78	46	75	52	70	48	70	47	77	48	82	45	82	55	81	45	75	57	81	55	77	60	81	53
9...	77	49	76	49	80	43	72	50	78	50	82	45	78	46	82	42	71	53	76	45	68	56	76	51	79	51	79	51
10...	66	52	78	40	80	47	69	55	82	50	83	45	81	49	81	52	79	58	74	46	68	54	73	55	80	54	78	55
11...	59	52	70	54	78	56	68	56	76	61	80	52	83	56	84	60	81	61	78	57	74	59	78	59	76	55	81	60
12...	59	51	73	57	74	56	69	56	78	62	80	57	84	58	87	59	83	64	82	54	75	63	77	61	82	57	84	57
13...	62	52	84	65	80	62	88	61	88	70	.....	.....	90	67	90	67	91	71	86	67	74	64	90	68	80	60	91	70
14...	78	52	80	63	84	61	84	64	84	62	86	59	87	62	90	59	86	68	85	62	81	64	84	65	86	61	88	68
15...	73	53	81	49	88	58	83	63	87	64	86	48	88	58	92	56	88	69	88	55	82	64	85	67	88	63	90	63
16...	64	52	71	60	86	60	69	60	72	64	77	64	78	62	79	61	84	67	80	64	75	63	80	66	84	60	83	67
17...	67	51	73	55	76	61	79	60	75	58	75	60	78	58	81	56	84	65	82	59	81	65	83	63	74	60	83	64
18...	75	54	75	52	80	49	75	57	78	54	75	55	78	53	79	52	82	62	79	52	78	64	80	57	78	62	79	58
19...	63	50	63	54	77	57	70	57	68	59	71	54	67	53	74	54	71	60	72	55	72	62	71	58	70	56	72	57
20...	65	50	68	53	67	56	70	56	71	57	85	45	74	55	78	49	70	60	74	49	69	59	75	55	72	54	75	56
21...	66	53	77	45	76	53	71	58	78	50	75	52	77	52	80	50	69	61	72	53	67	59	75	58	74	59	78	56
22...	62	49	62	55	76	53	61	58	65	60	77	55	77	54	82	58	72	60	75	47	67	56	73	57	71	53	79	58
23...	58	48	64	54	72	55	65	57	67	58	74	52	67	60	67	58	69	62	68	57	66	56	67	61	68	54	68	60
24...	62	51	64	55	74	57	65	58	66	58	67	52	73	53	75	59	81	63	79	61	72	64	80	62	70	51	76	62
25...	69	52	70	47	75	63	74	55	72	52	.....	.....	75	48	78	54	78	62	75	54	72	63	75	62	74	50	77	60
26...	82	58	80	56	83	53	87	60	84	54	78	47	86	50	88	55	86	63	85	49	78	62	86	61	82	57	85	61
27...	83	56	82	52	88	59	89	64	86	56	83	59	87	55	90	57	88	66	85	53	76	63	86	66	85	63	87	64
28...	85	54	85	54	91	61	87	65	90	56	88	60	91	60	92	61	91	68	87	63	77	65	90	65	88	64	89	65
29...	82	53	85	56	91	61	80	67	89	62	82	54	91	63	92	62	92	68	83	57	75	63	85	65	87	65	86	65
30...	80	54	80	66	89	65	91	68	85	67	83	64	89	67	93	68	95	74	93	69	79	67	94	72	90	62	93	71
31...	77	59	73	55	89	51	78	64	78	56	80	58	83	57	88	63	78	70	81	63	75	62	86	67	86	60	87	66
Mns	68.9	51.2	72.1	51.3	79.1	54.0	74.9	58.0	75.9	55.8	77.1°	52.7°	79.0	55.1	81.9	55.8	80.2	62.8	79.5	54.6	73.2	60.6	79.8	60.5	78.4	57.2	81.1	60.4

Date.	New Haven, Conn.		New York.												Pennsylvania.													
			Addison.		Albany.		Binghamton.		Cooperstown.		Indian Lake.		New York.		Clearfield.		Easton.		Everett.		Harrisburg.		Philadelphia.		Scranton.		Wellsboro.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	90	68	87	55	86	68	84	61	80	60	83	50	88	68	90	49	92	60	90	58	92	68	92	73	87	63	85	54
2...	82	65	83	55	78	61	75	59	71	56	80	45	82	71	83	51	88	67	86	59	85	69	88	75	78	65	81	51
3...	78	56	72	57	69	57	75	56	60	55	70	50	79	62	77	42	82	65	80	65	79	62	85	65	71	57	75	57
4...	74	54	72	49	73	55	65	49	63	52	66	47	73	58	69	47	74	49	70	43	72	57	74	59	68	53	68	46
5...	79	55	80	39	78	51	75	43	70	44	70	34	80	58	74	37	82	53	77	58	80	54	81	61	76	46	78	36
6...	80	55	84	44	74	56	77	38	71	48	72	43	79	61	84	49	84	53	76	55	77	57	76	63	81	52	82	42
7...	79	59	84	45	78	55	74	49	71	48	75	34	82	64	80	46	82	63	78	52	80	63	80	64	75	56	76	41
8...	84	56	86	40	81	53	78	47	72	50	74	37	85	61	82	39	86	52	81	42	84	57	86	65	81	50	83	37
9...	73	53	88	40	79	50	80	44	72	43	85	30	76	60	86	50	84	49	82	46	81	59	79	62	82	47	85	39
10...	75	55	89	49	82	59	82	56	80	56	80	40	76	60	87	52	84	53	84	51	83	58	82	60	84	56	86	49
11...	78	63	93	61	85	64	86	63	83	63	82	57	79	65	90	56	86	60	85	57	85	62	85	61	85	63	89	57
12...	82	60	88	68	88	66	85	67	86	65	85	61	85	67	86	65	92	65	85	70	87	67	88	66	88	66	87	65
13...	91	70	88	70	89	72	85	63	82	63	85	65	90	71	83	69	89	71	83	68	84	71	90	75	85	69	87	69
14...	84	67	89	68	90	64	86	56	78	58	90	55	84	70	86	53	90	67	88	58	88	70	87	73	87	60	87	51
15...	85	66	95	73	90	65	89	60	85	65	85	51	84	71	87	60	90	65	84	59	88	67	90	70	89	63	89	56
16...	81	68	96	75	84	63	84	62	78	60	83	59	84	71	83	60	86	64	83	62	87	69	87	72	87	65	88	56
17...	85	64	84	66	80	62	74	56	70	50	75	50	84	69	80	63	84	63	80	59	84	68	88	73	79	60	79	60
18...	80	58	84	44	77	58	73	48	70	55	70	43	83	65	78	50	82	60	78	50	80	61	84	67	78	51	80	43
19...	74	57	76	50	73	58	69	55	65	54	70	50	73	61	81	46	74	55	74	60	75	61	76	62	70	56	74	51
20...	77	57	83	43	78	53	74	51	71	52	75	40	81	60	80	37	79	54	79	46	82	58	81	63	76	53	80	39
21...	78	57	82	40	83	53	78	46	72	45	90	35	80	64	79	41	82	52	80	46	82	57	81	63	81	49	80	37
22...	76	61	73	57	79	60	71	60	72	55	80	44	79	66	81	54	81	59	80	55	75	64	69	66	70	61	74	56
23...	66	63	82	61	66	62	67	60	64	58	70	54	68	65	78	63	68	59	81	62	78	63	74	62	67	60	78	60
24...	76	62	76	56	74	60	73	56	66	50	68	55	76	66	73	51	75	63	74	57	78	64	79	66	75	60	75	55
25...	78	60	84	60	78	58	75	55	70	54	72	47	80	64	78	47	80	55	79	48	84	58	84	62	78	57	83	54
26...	84	60	89	46	87	59	84	49	70	50	80	46	84	62	84	50	85	52	85	59	87	57	86	67	84	51	86	40
27...	82	65	90	57	86	62	85	57	80	55	85	42	84	67	83	59	85	63	80	60	85	71	87	69	86	60	83	55
28...	84	66	95	56	89	64	87	60	84	58	90	53	85	68	86	56	86	59	88	56	87	63	86	70	87	58	89	54
29...	82	66	98	62	89	68	89	68	84	65	85	59	84	67	85	63	90	63	88	60	92	68	91	69	91	64	89	55
30...	93	73	95	68	91	71	86	66	83	66	83	65	92	75	87	60	92	73	91	66	94	75	95	76	88	70	91	67
31...	84	69	93	57	87	64	83	60	79	58	82	45	84	72	87	58	87	66	86	65	89	71	86	73	85	62	89	54
Mns	80.5	61.5	85.7	55.2	81.3	60.4	79.0	55.8	74.5	55.2	78.7	47.9	81.4	65.5	82.2	52.4	83.9	59.7	81.8	56.5	83.4	63.5	83.8	66.8	80.6	58.2	82.5	51.2

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 1*—Continued.

Date.	New Jersey.								Martinsburg, W. Va.		Maryland.								Washington, D. C.		Millsboro, Del.		Virginia.					
	Asbury Park.		Atlantic City.		Hightstown.		Newton.				Baltimore.		Darlington.		Frederick.		Westernport.						Culpeper.		Fredericksburg		Staunton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	93	69	78	67	95	67	90	59	93	65	93	71	92	67	92	68	88	60	90	72	91	69	95	67	92	68	88	66
2...	91	72	88	70	87	64	83	61	90	66	90	74	87	66	91	68	86	60	88	72	91	70	92	67	91	68	88	66
3...	82	70	87	62	85	65	75	61	84	67	87	66	82	65	88	65	82	63	86	65	90	67	89	69	89	68	85	66
4...	75	56	75	54	79	48	74	47	76	54	76	60	73	56	85	58	73	45	74	56	74	56	75	53	80	56	83	51
5...	75	54	75	52	84	44	80	42	83	50	89	58	82	48	82	56	79	49	80	53	84	50	81	53	80	55	74	53
6...	72	55	70	62	84	53	83	49	73	56	70	65	78	56	72	62	72	61	70	63	67	61	72	62	71	60	68	61
7...	70	60	69	61	83	62	82	57	85	56	83	64	82	62	84	56	81	56	80	61	74	62	83	60	82	56	78	60
8...	86	57	83	58	90	48	86	47	87	50	86	61	87	52	86	51	85	45	84	55	86	53	88	49	87	49	80	52
9...	84	57	69	62	83	47	81	45	88	54	79	65	79	56	86	55	85	47	82	57	75	59	86	53	83	54	81	54
10...	69	54	73	63	86	47	82	46	90	54	81	62	81	54	87	58	88	52	85	58	80	51	88	61	86	55	82	54
11...	73	65	77	65	90	60	85	55	92	61	83	67	84	59	86	63	88	58	87	62	83	52	88	61	87	58	84	59
12...	72	64	79	69	93	57	89	55	93	67	90	70	87	69	90	66	91	63	91	66	94	64	91	65	92	60	86	63
13...	91	68	88	71	95	69	91	68	86	75	90	76	91	73	90	73	84	68	88	74	94	73	94	73	96	72	89	72
14...	88	70	77	70	93	62	92	60	93	65	84	73	86	67	90	66	90	61	87	69	81	69	88	67	87	69	86	67
15...	74	64	77	68	94	60	90	61	91	66	87	66	86	64	90	67	90	60	92	69	83	68	93	67	94	68	88	63
16...	76	68	82	70	88	68	86	61	91	67	92	72	91	64	91	67	88	62	92	71	81	70	92	67	90	66	85	63
17...	87	67	88	68	89	62	85	56	87	65	88	72	89	64	87	66	84	58	88	70	90	68	92	63	91	62	86	61
18...	86	62	83	64	85	55	81	52	85	59	88	67	86	58	86	60	83	51	85	61	88	61	89	57	86	61	84	58
19...	79	58	75	57	78	55	75	55	80	55	78	61	79	52	78	57	75	46	76	60	77	57	80	58	80	59	80	50
20...	76	57	78	58	82	51	83	49	84	54	83	62	84	52	85	51	82	45	82	57	82	53	83	52	85	55	79	50
21...	73	60	77	60	85	51	82	46	85	52	82	63	86	52	84	54	82	48	86	56	83	52	88	52	87	56	81	50
22...	73	61	74	67	78	55	75	56	87	57	76	69	73	62	82	64	87	55	79	66	74	61	86	65	81	65	87	57
23...	69	64	74	64	73	62	65	58	85	65	82	68	78	62	84	66	84	67	82	67	82	65	88	67	90	64	82	70
24...	75	64	78	68	78	64	77	61	80	63	82	68	80	63	80	64	78	59	81	66	81	65	84	64	85	66	84	60
25...	81	59	84	65	83	57	81	57	86	58	86	65	84	59	86	60	83	54	85	59	87	56	88	53	88	54	84	55
26...	79	58	79	63	89	52	85	47	91	55	84	63	84	56	90	55	86	50	88	60	87	56	88	58	88	63	86	55
27...	74	63	78	69	90	61	87	57	86	58	87	70	85	67	88	67	80	61	86	68	88	65	86	67	84	66	83	63
28...	75	64	80	69	90	60	88	56	93	61	85	67	85	61	91	60	91	62	87	62	84	65	93	61	90	60	86	60
29...	74	63	78	70	93	63	89	59	96	66	92	72	89	61	96	65	91	61	96	70	94	63	98	64	98	66	89	66
30...	94	70	92	71	96	73	93	71	96	69	94	76	95	61	94	74	93	70	94	73	98	73	90	71	94	71	89	69
31...	91	73	77	70	88	67	87	60	92	71	89	75	89	61	91	73	92	67	88	74	85	73	96	71	93	70	92	65
Mns	79.3	62.8	78.8	64.7	86.6	58.4	83.3	55.3	87.4	60.7	84.7	67.3	84.3	60.3	86.8	62.4	84.5	56.9	85.1	64.3	84.1	62.2	87.9	61.8	87.3	61.9	83.8	60.0

Climatological Data for July, 1909.

DISTRICT No. 2, SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

INTRODUCTION.

The territory embraced by District No. 2 includes the larger portion of Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama and the eastern portion of the State of Mississippi, or in general terms the eastern and southern slopes of the Appalachian mountain system. The land inclines gradually upward from the coasts of the Atlantic Ocean and the Gulf of Mexico to the mountainous districts of the interior, where the greatest altitudes in the United States east of the Rocky Mountains are found. The great rivers of this section, the James, the Roanoke, the Santee, and the Savannah, which flow into the Atlantic, and the Apalachicola and Mobile, flowing into the Gulf of Mexico, receive their headwaters in the highlands at altitudes ranging from 800 to over 5,000 feet above sea level and possess many important water powers. In every State in the district except Mississippi and Florida the highest altitudes exceed several thousand feet. As a matter of general interest the highest point in each State is presented in the following table:

	Feet.
Virginia, Mount Rogers	5,718
North Carolina, Mount Mitchell	6,711
South Carolina, Sassafras Mountain	3,548
Georgia, Brasstown Bald Mountain	4,768
Alabama, Cheawha Mountain	2,407
Florida, near Mount Pleasant Station	301
Mississippi, near Holly Springs	602

The largest rivers in the district with their most important affluents, beginning at the northern limit, are as follows: In Virginia the James River; in North Carolina the Cape Fear and the Roanoke; and in the western portion of the State the headwaters of the Pedee and Catawba which flow into the Atlantic through South Carolina; the chief stream in South Carolina is the Santee formed by the junction of the Broad and Saluda; its main affluent is the Catawba. The Savannah River forms throughout the greater part of its length the dividing line between South Carolina and Georgia. The Altamaha, formed by the union of the Oconee and Ocmulgee Rivers flows into the Atlantic just north of the Florida boundary line. The important streams flowing into the Gulf of Mexico are the Apalachicola River, formed by the junction of the Flint and Chattahoochee, and in Alabama the Mobile River, with its two largest tributaries the Tombigbee and Alabama.

The headwaters of navigation of these important rivers are usually found at what is geologically known as the "fall line", where the rivers break through a low barrier of crystalline rock forming the limit of the Piedmont Plateau to enter the alluvial plains of the coastal region. Beginning at Richmond, Va., the "fall line" passes through Weldon on the Roanoke, near Fayetteville on the Cape Fear, south of Columbia, S. C., on the Santee, through Augusta, Ga. (Savannah), Macon (Ocmulgee), and Columbus, Ga. (Chattahoochee), thence in a westerly direction nearly to Montgomery, Ala., where the southern fall line terminates.

The ridge dividing the waters of the Gulf of Mexico from those of the Atlantic slope enters the State of Georgia from North Carolina at the boundary line between Rabun and Towns counties, passes through Mount Airy, Habersham County, thence along the line of the Southern Railway through Norcross and Stone Mountain to Atlanta, the drainage of this city passing partly into the Atlantic and partly into the Gulf of Mexico. From Atlanta the ridge passes south to Culloden and Fort Valley, thence in a southeasterly direction through Okefenoke swamp, between the St. Marys and the Suwanee basins into Florida. The dividing line between the rivers draining east and south, and those flowing northward into the Ohio River is formed by the crest of the Blue Ridge Mountains, that is the eastern rather than the western of the chains forming together the Appalachian system.

The limits of district No. 2 are included between Key West, Fla., whose latitude is 24° 34′ N. and Hot Springs, Va., latitude 38° 0′ N.; and between Hatteras at the eastern extremity of North Carolina, longitude 75° 40′ W., and Magnolia, Miss., longitude 90° 27′ W. Over such an extended region possessing so varied a topography, great variations must appear in the chief climatic elements, temperature and rainfall, owing both to the effect of latitude and the far more powerful influence of altitude as well as to local conditions. In southern Florida frost never occurs, while in the mountainous districts of the north the winter temperature sometimes falls to 20° or more below zero. The altitudes of the highest meteorological stations in this district are Hot Springs, Va., 2,195 feet and Clayton, Ga., 2,100 feet.

METEOROLOGICAL SUMMARY FOR JULY, 1909.

Although the summer rains in the region under consideration are always convectional and local in character, the occurrence of precipitation is nevertheless controlled by the ill-defined pressure distribution characteristic of the warm season. The excessive rainfall this month in Florida, especially on the west coast where three stations reported amounts exceeding 20 inches was largely caused by the persistence of moderate barometric depressions in northern Florida and southern Georgia from July 1 to 3. The depression appeared first in the vicinity of Tampa, Fla., on June 29 (Tampa, 29.76), moved slowly to southern Georgia July 1 (Thomasville, 29.78) inches, thence to the vicinity of Charleston, S. C., where the lowest pressure for the month, 29.63 inches was recorded on July 3, on which date the minimum pessure was recorded at all stations in the district except at Jacksonville. After a brief period of somewhat higher pressure accompanied by fair weather a second moderate depression appeared on the south Atlantic coast between Norfolk and Charleston on July 7, and during the few days following ill-defined depressions persisted in the Southern States, causing a second period of heavy rainfall from July 7 to 9. The first marked area of high pressure that caused a decided lowering of the temperature in the eastern and northern portions of the district appeared in the Northwest July 19 when the barometer rose above 30.30 inches from Chicago to Marquette. During July 20 and 21 this high area spread southeastward, and on the morning of July 21 extended from Jacksonville to Portland Me. with the pressure over 30.20 inches. The maximum barometer for the month, 30.30 inches, was reported July 20 at Charlotte, N. C. The pressure remained above normal throughout the district from July 23 to the close of the month, most of the Alabama stations reporting the maximum pressure on July 29. A marked peculiarity of the weather for the month was the persistence of showers throughout the period of high barometer.

TEMPERATURE.

The temperature during the month was below the normal over the greater portion of the district, including all of Virginia, North and South Carolina, Georgia, most of Florida, and the northeastern half of Alabama. The greatest deficiencies occurred in western Virginia and western North Carolina, and in northern Georgia where they exceeded 4° at a few stations. The temperature was above normal in Mississippi and in southwestern Alabama. and at a few scattered stations in Florida. The greatest excess, however, was only a little over 2° at Mobile, Ala. The monthly mean temperatures ranged from 66.0° at

Hot Springs, Va., to 83.4 at Biloxi, Miss. In Georgia the State mean temperature was the lowest since the records were begun in 1892 except for July 1894 and 1906, while on the other hand in Mississippi the State mean was higher than for any other July since 1902. The comparatively small range in monthly mean temperatures in both Mississippi and Florida (only 4°) is noteworthy as compared with ranges exceeding 10° in Georgia, North Carolina, and Virginia and even 15° in South Carolina. Although the maximum temperature for July slightly exceeded 100° in all portions of the district except Virginia and North Carolina, the number of stations reporting over 100° was less than usual, and the month may be recorded as cool and showery in all the States bordering the Atlantic, from Florida to Virginia. The maximum temperature was 104° at Florence, S. C., and the minimum was 40° on July 10 at Hot Springs, Va.

PRECIPITATION.

The precipitation was very irregularly distributed throughout the district and was below normal at so many stations in each State except Florida that the state averages show a general deficiency that was greatest in Virginia and Mississippi. The most remarkable feature of the distribution was of rainfall the unusually large amount in Florida. The average rainfall for that State, as determined from the records of 60 stations was 11.25 inches, or 4.08 inches above the normal. The greatest amounts fell in the central and northern counties of the peninsula and ranged from 10 to more than 20 inches. The total amount for July, 1909, exceeded 20 inches at the following stations: Cedar Keys, Levy Co., 25.57 inches; Inverness, Citrus Co., 22.57 inches; and Rockwell, Marion Co., 26.00 inches. Excessive rains (2.50 inches or more in 24 hours) occurred at 33 stations in Florida, among which the most remarkable were:—Rockwell, 12.00 inches on the 2, and on the same date New Smyrna, 8.80 inches and Iverness, 8.40 inches. The average number of days with rain in Florida was fifteen.

Smaller areas of heavy rainfall (monthly totals of 8 to 10 or more inches) also appear in the eastern and western portions of North Carolina (greatest amount 14.20 at Greenville, Pitt Co.); in the northern portion of South Carolina as well as at a few stations near the coast; in central Georgia and in small portions of the south-central and southwest sections; in southern Alabama and Mississippi.

Marked deficiencies in rainfall occurred in Virginia and Mississippi. At Richmond the rainfall was the smallest ever received in July. In Mississippi the average precipitation for the State was the least recorded since 1896, several stations receiving less than two inches during the month. There were deficiencies in precipitation also in central-western Alabama, eastern and northern Georgia, and in central South Carolina, in all of which sections generally less than four inches was recorded. The smallest amounts were Charlottsville, Va., 0.54 inch, and Talladega, Ala., 0.79 inch. There was not a day on which rain did not fall at some point in every State except Virginia (and in Mississippi the 25th), though in many cases the successive amounts were quite small. Longer periods of fair weather were experienced in Virginia than any in other section. The number of days with appreciable rainfall averaged from 8 to 10 in the majority of states. The number of thunderstorms recorded was very large but all were of moderate force.

RIVER CONDITIONS.

Owing to prevailing high temperatures that caused rapid evaporation, to the irregular distribution of rainfall, and to the cultivated condition of the ground, the chief factors diminishing the runoff, there were no floods in any of the rivers of the district, though many of the smaller upper tributaries were much swollen by heavy rains, as well as the smaller unimportant streams in central-western Florida. The upper portion of the Saluda River in South Carolina and its affluents rose slightly above flood stages on July 10, Chappells reporting a maximum stage of 16.9 feet, or 2.9 feet above the flood stage. Subsequently the Santee rose about one foot above the flood stages at Ferguson and Rimini, S. C. Elsewhere the rivers maintained an average flow somewhat below the normal in Virginia, North Carolina, and Mississippi, and slightly above the normal in other states, but not approaching flood stages.

MISCELLANEOUS PHENOMENA.

In Alabama the prevailing wind was from the east, in Mississippi from the south; elsewhere in the district the prevailing winds were from the southwest, usually with moderate velocities. Jacksonville, Fla., on July 18, reported a maximum velocity of 55 miles an hour from the southwest; at Sand Key, Fla., on the 17th a maximum velocity of 52 miles from the southeast was experienced; at Atlanta on the 7th, 48 miles from the west. Despite the frequency of rains there was fairly abundant sunshine over most districts except central Florida. The number of clear days progressively diminished from Virginia (State average 17 days) southward to Florida (average only 9) and thence increased westward to Mississippi (average 14). Very few severe local storms and almost no hail occurred during July, 1909.

TABLE 1.—*Climatological data for July, 1909. District No. 2, South Atlantic and east Gulf States*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Virginia.																				
Arvonia	Buckingham	350	5	75.8	− 1.2	94	15†	55	20	30	1.72	− 1.93	1.16	0.0	6	17	12	2	sw.	Rev. Plummer F. Jones.
Ashland‖	Hanover	221	18	74.8	− 2.7	97	30	56	4†	26	1.91	− 3.27	0.70	0.0	5	11	18	2	sw.	E. L. C. Scott.
Buchanan (8 a. m.)	Botetourt	820	5	.....	.....	.....	.....	.....	.....	.....	3.60	− 1.47	0.71	0.0	9	.....	.....	.....	.....	D. D. Boose.
Calhaville	Brunswick	250	15	73.2	− 4.2	94	31	56	5†	27	5.78	+ 0.15	1.91	0.0	8	16	14	1	s.	F. M. Gage.
Cape Henry	Princess Ann	20	35	75.6	− 1.9	93	1†	60	8	23	3.93	− 1.02	1.28	0.0	10	16	8	7	sw.	U. S. Weather Bureau.
Charlottesville	Albermarle	800	20	75.4	− 0.8	96	29	54	5†	29	0.54	− 0.20	0.20	0.0	5	7	23	1	sw.	Leander McCormick.
Clarksville (8 a. m.)	Mecklenville	.....	15	.....	.....	.....	.....	.....	.....	.....	2.98	− 1.80	1.30	0.0	6	.....	.....	.....	.....	J. Henry Ligon.
Columbia m‖	Fluvanna	246	11	72.9	− 3.3	92	29	53	20	26	.....	.....	.....	0.0	9	.....	.....	.....	sw.	Agent, C. & O. R. R.
Danville (8 a. m.)	Pittsylvania	413	9	.....	.....	.....	.....	.....	.....	.....	5.40	+ 1.59	2.22	0.0	.....	.....	.....	.....	.....	C. G. Watkins.
Dinwiddie	Dinwiddie	267	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. N. Colson.
Hampton	Elizabeth City	5	26	76.7	− 1.9	94	30	61	5†	28	4.22	− 1.02	2.27	0.0	8	19	2	10	sw.	Hampton Institute.
Hot Springs	Bath	2,195	17	66.0	− 3.6	85	29†	40	10	35	3.49	− 0.16	0.88	0.0	10	19	9	3	.....	James P. Scott.
Ivor	Southampton	87	.....	74.4	.....	96	31	51	5	38	5.47	.....	2.36	0.0	7	.....	.....	.....	.....	Agent N. & W. Ry.
Lexington‖	Rockbridge	1,060	32	70.6	− 4.2	92	31	45	20	35	4.32	+ 0.33	1.51	0.0	9	20	7	4	.....	Virginia Mil. Institute.
Lynchburg	Campbell	685	38	74.2	− 3.2	93	31	53	20	32	1.85	− 2.23	0.92	0.0	8	13	16	2	nw.	U. S. Weather Bureau.
New Castle (8 a. m.)	Craig	1,300	.....	.....	.....	.....	.....	.....	.....	.....	3.42	.....	1.54	0.0	.....	.....	.....	.....	.....	Miss J. L. Martin.
Newport News‖	Warwick	55	6	76.9	− 2.0	97	30	59	11	27	5.27	− 1.49	2.34	0.0	11	20	7	4	sw.	Ernest W. Sniffen.
Norfolk	Norfolk	91	39	76.4	− 2.3	94	31	62	8	24	4.41	− 1.47	1.86	0.0	11	16	9	6	s.	U. S. Weather Bureau.
Norfolk (Diamond Spgs)	Princess Anne	20	.....	75.6	.....	97	17	56	8	34	5.67	.....	2.13	0.0	6	.....	.....	.....	.....	Virginia Experiment Sta.
Petersburg[b]	Dinwiddie	60	22	76.9	− 0.7	96	30	56	19	29	.....	.....	.....	0.0	.....	15	0	5	w.	Central State Hospital.
Randolph (8 a. m.)	Charlotte	334	5	.....	.....	.....	.....	.....	.....	.....	3.09	.....	1.06	0.0	4	.....	.....	.....	.....	W. B. Spencer.
Richmond	Henrico	144	30	76.8	− 1.6	96	31	59	4	26	1.25	− 3.16	0.78	0.0	5	22	5	4	s.	U. S. Weather Bureau.
Rocky Mount[a]	Franklin	1,150	15	71.9	− 4.3	92	29	45	9	40	3.42	− 1.98	0.77	0.0	9	23	0	7	sw.	G. W. B. Hale.
Sabot	Goochland	125	.....	.....	.....	.....	.....	.....	.....	.....	1.25	.....	0.71	0.0	3	19	9	3	.....	W. A. Jacobs.
Saxe	Charlotte	350	6	74.6	.....	95	3†	49	21†	41	3.39	.....	2.05	0.0	5	26	0	5	sw.	State Experim. Farm.
Spottsville (near)	Surry	15	21	74.4	− 3.3	93	31	50	5†	38	5.33	− 0.90	2.34	0.0	8	16	10	5	sw.	B. W. Jones.
Williamsburg[c]	James City	70	18	76.6	− 0.2	95	30†	56	21	30	.....	.....	.....	0.0	.....	14	1	2	sw.	Eastern State Hospital.
North Carolina.																				
Beaufort	Carteret	10	7	79.1	− 0.9	93	29	64	8	24	3.80	− 2.18	2.58	0.0	9	20	5	6	sw.	H. D. Aller.
Belhaven	Beaufort	4	.....	76.4	.....	95	31	53	21	36	8.71	.....	2.19	0.0	10	21	4	6	s.	William S. Hopkins.
Brewers	Wilkes	1,950	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. L. Brewer.
Caroleen	Rutherford	806	9	76.6	− 1.9	95	3	58	20	28	4.85	+ 0.18	1.63	0.0	10	13	14	4	sw.	S. B. Tanner.
Chalybeate Springs	Harnett	500	3	75.6	.....	95	3†	51	21	35	8.50	.....	2.21	0.0	12	19	8	4	sw.	J. A. Smith.
Chapel Hill	Orange	500	51	76.0	− 2.7	94	3†	52	21	37	3.70	− 1.18	1.44	0.0	8	14	15	2	w.	Prof. A. H. Patterson.
Charlotte	Mecklenberg	808	33	76.2	− 2.5	92	3	61	20	23	2.70	− 2.79	0.90	0.0	14	5	21	5	sw.	U. S. Weather Bureau.
Chimney Rock	Rutherford	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. L. B. Merse.
Clinton	Sampson	156	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. H. Campen.
Eagletown	Northampton	66	4	75.6	.....	93	15†	56	20	31	2.13	.....	0.68	0.0	10	20	9	2	sw.	J. T. Elliott.
Edenton	Chowan	30	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. R. Conger.
Fayetteville	Cumberland	170	22	77.2	− 1.9	96	3†	54	5	34	3.65	− 3.53	0.88	0.0	9	.....	.....	.....	.....	Frank Glover.
Goldsboro	Wayne	102	39	77.0	− 2.8	97	13	54	9†	36	9.79	+ 3.28	3.17	0.0	12	.....	.....	.....	w.	Mrs. N. B. Taylor.
Graham	Alamance	656	7	.....	.....	.....	.....	.....	.....	.....	4.22	− 1.32	1.61	0.0	10	.....	.....	.....	.....	Dr. W. R. Goley.
Greensboro	Guilford	843	28	76.0	− 2.1	94	3†	55	7	31	3.79	− 1.32	1.05	0.0	12	.....	.....	.....	sw.	A. R. Horry.
Greenville	Pitt	75	16	.....	.....	.....	.....	.....	.....	.....	14.20	+ 7.37	4.10	0.0	7	.....	.....	.....	.....	C. V. York.
Hatteras	Dare	11	35	76.6	− 2.0	86	2	64	21	20	2.50	− 3.63	0.79	0.0	13	17	11	3	sw.	U. S. Weather Bureau
Henderson	Vance	490	16	74.8	− 3.3	94	31	51	5	26	4.99	− 0.80	1.52	0.0	9	14	16	1	sw.	Enoch Powell.
Kinston	Lenoir	46	11	76.4	− 4.4	96	31	55	9	34	8.54	+ 1.86	2.34	0.0	11	22	6	3	se.	Rev J. R. Rountree.
Lenoir	Caldwell	1,186	36	73.0	− 2.0	90	2†	50	20	34	7.33	+ 2.32	1.75	0.0	16	16	10	5	s.	G. M. Goforth.
Lexington	Davidson	810	8	75.7	− 1.3	95	2†	50	20	35	7.14	+ 1.21	3.43	0.0	9	19	8	4	s.	H. R. Berrier.
Lincolnton	Lincoln	994	4	76.2	.....	93	3	54	23	33	7.99	.....	2.00	0.0	10	.....	.....	.....	sw.	L. B. Thompson.
Louisburg	Franklin	375	18	75.4	− 2.7	92	30	55	21	29	4.19	− 1.18	1.32	0.0	8	11	16	4	s.	T. B. Wilder.
Lumberton	Robeson	102	26	77.6	− 2.7	96	30†	54	5†	34	3.59	− 2.35	0.79	0.0	10	.....	.....	.....	ne.	B. M. Davis.
Manteo	Dare	12	4	75.9	− 1.6	90	15†	58	5†	22	8.52	+ 2.42	3.68	0.0	8	22	5	4	ne.	U. S. Weather Bureau.
Marion	McDowell	1,425	17	74.2	− 1.4	94	29	51	20	37	6.71	+ 1.31	1.81	0.0	15	12	14	5	w.	Thomas McGuire.
Moncure	Chatham	145	15	75.9	− 1.9	96	3	50	20	36	6.10	+ 1.16	1.99	0.0	14	19	4	8	sw.	B. J. Utley.
Monroe	Union	586	15	75.4	− 2.6	94	3	52	21	40	2.98	− 2.25	0.74	0.0	7	16	9	6	sw.	T. A. Ashcraft.
Morganton	Burke	1,135	22	74.4	− 1.6	93	3†	51	20	31	8.88	+ 3.78	3.52	0.0	10	19	6	6	sw.	H. D. Judd.
Mt. Airy	Surry	1,048	21	68.1	− 7.1	90	29	44	20	37	4.16	− 1.62	0.77	0.0	11	17	7	7	sw.	Prof. A. H. Merritt.
Mt. Holly	Gaston	616	12	.....	.....	.....	.....	.....	.....	.....	4.02	− 2.34	1.94	0.0	9	.....	.....	.....	.....	John W. Holland.
Nashville	Nash	190	5	75.4	− 3.5	94	3	52	21	32	4.62	− 2.39	1.06	0.0	10	11	11	9	s.	J. B. Boddie.
Newbern	Craven	12	27	76.0	− 3.0	95	31	55	20	33	6.75	− 0.88	1.94	0.0	8	.....	.....	.....	sw.	James B. Hill.
Pinehurst	Moore	650	5	76.6	− 2.6	93	3†	57	5†	29	6.92	− 1.48	1.36	0.0	14	22	6	3	sw.	General Office..
Pittsboro	Chatham	480	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. E. Morgan.
Raleigh	Wake	390	38	75.6	− 2.9	93	3	60	20	25	6.84	+ 0.73	2.39	0.0	10	13	10	8	sw.	Section Center.
Ramseur	Randolph	442	2	75.0	.....	94	12†	51	9†	36	6.38	.....	1.61	0.0	9	16	13	2	nw.	P. P. Turner.
Randleman	Randolph	810	4	.....	.....	.....	.....	.....	.....	.....	4.54	.....	1.18	0.0	12	.....	.....	.....	.....	John R. Walton.
Reidsville	Rockingham	828	10	74.7	− 1.5	93	3†	50	21	37	3.19	− 2.05	1.28	0.0	10	17	2	12	sw.	E. M. Redd.
Rockingham	Richmond	210	14	77.0[a]	− 3.1	95	3	48	20	38	4.16	− 2.40	1.07	0.0	9	.....	.....	.....	.....	H. S. Ledbetter.
Roxboro	Person	600	11	77.6[c]	+ 0.1	94	18†	59	20	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Bradsher.
Salem	Forsythe	1,000	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev H. E. Rondthaler.
Salisbury	Rowan	760	25	77.2	− 1.8	97	15	54	20	33	4.04	− 0.83	1.20	0.0	10	13	3	15	w.	Miss Thelma Wilkinson.
Saxon	Stokes	900	17	72.8	− 3.7	92	12	50	21	37	5.98	+ 1.67	1.85	0.0	10	11	12	8	sw.	R. P. McAnnaly.
Scotland Neck	Halifax	80	5	74.2	− 4.4	90	13†	56	5	30	4.13	− 2.14	0.90	0.0	11	11	6	14	s.	J. Y. Savage.
Selma	Johnston	225	19	78.1	− 1.6	94	1†	60	8†	26	7.20	+ 0.15	1.60	0.0	9	.....	.....	.....	.....	Dr. R. J. Noble.
Settle	Iredell	700	13	73.8	− 3.5	90[a]	3†	53	21	31	8.33	+ 2.44	5.28	0.0	9	17	2	12	sw.	C. H. Smith.
Sloan	Duplin	50	16	76.8[a]	− 2.0	96	13	55	5†	35	5.52	− 1.99	2.71	0.0	7	21	1	9	s.	D. M. Sholar.
Snowhill	Greene	80	4	75.7	.....	93	30	54	9	30	9.87	.....	3.70	0.0	13	7	20	4	s.	Levi J. H. Mewborn.
Southern Pines	Moore	519	19	76.7[a]	− 2.7	95	3	58	20	28	8.75	+ 1.10	3.50	0.0	11	15	15	1	sw.	Mrs. P. H. Beck.
Southport	Brunswick	18	54	79.2	− 1.2	91	3	62	20	25	6.12	− 0.69	2.27	0.0	7	18	10	3	sw.	Mrs. Charles E. Taylor.
Statesville	Iredell	950	21	76.4	− 0.5	95	11	52	20	37	5.96	+ 0.71	3.02	0.0	5	12	11	8	sw.	D. M. Thompson.
Toboro	Edgecombe	50	24	77.0	− 2.9	95	15†	54	21	35	4.07	− 2.28	1.00	0.0	8	17	9	5	sw.	E. V. Zoeller.
Troy	Montgomery	.....	.....	75.4[a]	.....	91	3	58	5†	23	3.14	.....	1.10	0.0	12	.....	.....	.....	sw.	Mrs. O. B. Deaton.
Weldon	Halifax	81	37	77.5	− 1.9	97	30	54	21	36	3.02	− 2.34	0.90	0.0	10	.....	.....	.....	n‡.	H. S. S. Cooper.
Whiteville	Columbus	59	4	76.8	.....	94	14†	54	5	31	5.29	.....	1.87	0.0	9	17	10	4	sw.	Rev. C. C. Smith.
Willard	Pender	51	1	76.7	.....	95	31	52	5	35	6.28	.....	3.21	0.0	8	18	7	6	s.	J. H. Jefferies.
Wilmington	New Hanover	52	38	77.0	− 1.7	90	14	62	5	23	2.97	− 4.00	1.55	0.0	11	11	15	5	sw.	U. S. Weather Bureau.
Yanceyville	Caswell	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Y. Kerr.
South Carolina.																				
Aiken	Aiken	565	25	80.2	− 1.1	98	7†	63	9†	28	2.81	− 2.49	1.08	0.0	6	26	5	0	nw.	Dr. C. F. McGahan.
Allendale	Barnwell	186	21	80.2	− 1.1	95	3	61	9	24	3.79	− 1.85	1.45	0.0	5	18	6	7	.....	A. R. Hiers.
Anderson	Anderson	764	8	76.8	− 2.2	96	3	60	8†	26	5.13	+ 0.46	1.41	0.0	12	18	0	13	w.	H. .H Russell.
Batesburg	Lexington	656	21	77.2	− 2.8	91	14	61	9	24	5.70	+ 0.40	3.16	0.0	10	18	7	6	n.	E. J. Hite.
Beaufort[d]	Beaufort	20	23	80.4	− 1.2	96	4	68	23	21	5.86	+ 0.06	3.25	0.0	6	2	24	0	se.	Miss Lillian H. Rice.
Bennettsville	Marlboro	151	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. S. McCall.
Blackville	Barnwell	296	21	80.8	− 0.9	100	2	63	10	30	3.83	− 1.46	0.87	0.0	11	15	7	9	sw.	Miss M. E. Lange.
Blairs	Fairfield	293	4	.....	.....	.....	.....	.....	.....	.....	8.54	.....	2.14	0.0	12	21	3	7	s.	T. S. McMeekin.
Bowman	Orangeburg	160	8	79.2	.....	98	14†	58	11	36	4.17	.....	1.10	0.0	8	17	11	3	w.	B. O. Evans.

TABLE 1.—*Climatological data for July, 1909. District No. 2.*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Carolina—Cont'd.																				
Calhoun Falls	Abbeville	508	16	.....	.....	.....	.....	.....	.....	.....	3.85	− 1.69	1.95	0.0	6	25	1	5	ne.	P. J. Pfiefer.
Camden(1)	Kershaw		3	77.6	.....	93	30	60	9	27	5.06	.....	1.26	0.0	12	12	12	7	sw.	J. B. Mickle.
Camden(2)	Kershaw	222	43	.....	.....	.....	.....	.....	.....	.....	3.66	− 1.37	2.52	0.0	11	19	7	5	sw.	W. C. Brown.
Catawba	York	562	4	.....	.....	.....	.....	.....	.....	.....	3.02	.....	0.58	0.0	9	17	8	6	s.	Jas. C. Faris.
Chappells	Newberry	402	4	.....	.....	.....	.....	.....	.....	.....	3.64	.....	0.60	0.0	10	18	7	6	sw.	M. C. Rivers.
Charleston	Charleston	48	39	80.2	− 1.1	94	3	69	10	20	4.17	− 3.09	1.60	0.0	13	9	18	4	s.	U. S. Weather Bureau.
Cheraw(1)	Chesterfield	144	21	77.4	− 2.6	94	3	56	5	26	3.50	− 2.59	0.85	0.0	10	15	6	10	s.	W. R. Godfrey.
Cheraw(2)	Chesterfield	144	16	.....	.....	.....	.....	.....	.....	.....	3.76	− 2.49	1.06	0.0	10	14	12	5	w.	Jno H. Powe.
Clarks Hill	Edgefield	456	7	.....	.....	.....	.....	.....	.....	.....	6.51	.....	1.87	0.0	8	.....	.....	.....	.....	Wm. S. Middleton.
Clemson College	Oconee	850	18	76.2	− 2.7	90	3	61	20	29	4.03	− 1.38	1.04	0.0	11	15	15	11	s.	Prof. John N. Hook.
Columbia	Richland	351	22	78.4	− 2.7	96	3	63	9	25	3.08	− 2.98	1.19	0.0	12	7	15	9	sw.	U. S. Weather Bureau.
Conway	Horry	25	17	.....	.....	.....	.....	.....	.....	.....	7.08	+ 0.32	2.10	0.0	8	9	2	20	s.	R. C. Quattlebaum.
Darlington	Darlington	175	14	78.6	.....	95	30†	56	21	34	2.91	− 2.32	1.50	0.0	9	.....	.....	.....	.....	D. C. McCall.
Dillon	Marion	100	5	78.0	− 2.9	98	3†	55	21	35	1.71	− 4.45	0.85	0.0	11	.....	.....	.....	.....	A. E. Rowell.
Effingham	Florence	106	17	.....	.....	.....	.....	.....	.....	.....	3.50	− 0.39	1.40	0.0	5	15	4	12	sw.	H. B. McCall.
Ferguson	Berkeley	51	2	.....	.....	.....	.....	.....	.....	.....	4.68	.....	1.20	0.0	10	23	1	7	sw.	D. B. Gilliland, jr.
Florence	Florence	136	21	80.4	− 1.0	104	13	58	21	39	2.39	− 3.33	0.60	0.0	8	18	5	8	sw.	H. K. Gilbert.
Georgetown	Georgetown	12	16	79.5	− 1.1	94	17	65	9	22	4.93	− 2.61	1.84	0.0	6	15	12	4	s.	Wm. Alden James.
Greenville	Greenville	989	17	75.0	− 1.1	92	3	60	9	20	7.96	+ 2.36	1.89	0.0	16	13	4	14	sw.	Mrs. S. A. Crittenden.
Greenwood	Greenwood	671	21	78.0	− 2.1	94	3	62	9	23	8.85	+ 3.93	2.07	0.0	10	23	0	8	w.	M. M. Calhoun.
Heath Springs	Lancaster	568	8	78.9[b]	.....	95	3†	61	10†	29	3.50	.....	1.33	0.0	10	15	10	6	s.	J. A. Weaner.
Jacksonboro	Colleton	13	1	79.1	.....	94	7†	63	21	23	4.15	.....	1.01	0.0	8	12	11	8	se.	W. E. Haskell, jr.
Kingstree(1)	Williamsburg	54	21	78.4	− 2.3	93	31	66	10	22	6.11	+ 0.18	3.20	0.0	8	18	7	6	sw.	J. A. Scott.
Kingstree(2)	Williamsburg	54	15	.....	.....	.....	.....	.....	.....	.....	5.80	− 0.02	3.10	0.0	4	19	7	5	se.	A. O. Matthews.
Liberty	Pickens	900	15	77.6	− 1.6	96	3	62	8†	26	5.44	+ 0.04	1.97	0.0	11	16	11	4	sw.	Jno T. Boggs.
Little Mountain	Newberry	711	16	77.8	− 2.8	94	3	62	9†	23	3.44	− 1.56	1.30	0.0	8	19	8	4	s.	Dr. J. M. Lease.
Newberry	Newberry	502	5	78.8	− 1.6	98	3	62	21	27	6.35	+ 1.03	2.24	0.0	13	9	11	11	s.	W. G. Peterson.
Pelzer	Anderson	873	4	.....	.....	.....	.....	.....	.....	.....	5.44	.....	3.02	0.0	8	18	2	11	w.	John M. Ward.
Pinopolis	Berkeley	54	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss E. P. Ravenel.
St. George	Dorchester	109	21	80.4	− 0.5	92	17	65	9†	21	4.90	− 1.13	0.90	0.0	7	27	0	4	.....	G. T. Lewis.
St. Matthews	Calhoun	209	21	76.2	− 4.0	90	2†	62	9†	21	3.34	− 2.52	1.51	0.0	11	21	0	10	.....	J. S. Wannamaker.
Saluda	Saluda	530	7	78.2[b]	.....	97	3	62	11†	28	6.68	.....	1.75	0.0	11	17	9	2	ne.	Alvin Etheridge.
Santuc	Union	512	15	77.6	− 1.7	94	13†	61	9	29	6.43	+ 1.54	2.86	0.0	14	11	15	5	sw.	E. W. Jeter.
Smith Mills	Williamsburg	62	14	.....	.....	.....	.....	.....	.....	.....	2.57	− 4.04	1.09	0.0	8	19	2	10	s.	W. G. Walker.
Society Hill	Darlington	192	18	76.8	− 2.8	92	30†	58	20	24	6.73	+ 0.58	2.79	0.0	11	13	5	13	sw.	J. J. Lucas.
Spartanburg	Spartanburg	875	18	78.4	− 1.0	99	3	60	9†	28	4.22	− 0.17	1.00	0.0	15	13	2	16	.....	F. P. Robinson.
Summerville	Dorchester	75	12	78.2	− 1.6	93	17	61	10†	27	7.15	+ 0.88	2.06	0.0	17	7	22	2	sw.	Miss E. H. Gadsden.
Trenton	Edgefield	620	16	76.8	− 4.0	97	3	60	9	29	3.25	− 2.68	1.01	0.0	11	10	19	2	s.	C. A. Long.
Trial	Berkeley	85	23	77.6	− 1.5	93	13	61	21	26	5.12	− 1.08	0.85	0.0	14	4	20	7	sw.	Etsell Gaillard
Walhalla	Oconee	1,061	18	76.0	− 0.8	96	3	59	9	26	4.43	− 1.63	0.93	0.0	11	21	5	5	sw.	N. L. Fant.
Walterboro	Colleton	69	5	79.0	.....	98	27	63	11†	25	9.08	.....	1.90	0.0	15	11	17	3	.....	J. A. Westerberg.
Winnsboro	Fairfield	545	20	77.4	− 2.3	96	31	64	9†	21	6.95	+ 2.86	3.60	0.0	8	15	12	4	sw.	John W. Seigler.
Winthrop College	York	690	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. R. Rivers.
Yemassee	Hampton	23	14	79.4	− 2.2	97	7	63	21	27	9.58	+ 2.98	2.90	0.0	12	19	4	8	.....	J. G. Hutson.
Georgia.																				
Abbeville	Wilcox		6	.....	.....	.....	.....	.....	.....	.....	3.71	− 1.92	0.76	0.0	13	.....	.....	.....	e.	W. H. Calhoun.
Adairsville[a]	Bartow	772	17	77.3	− 1.3	95	15	58	25	31	2.94	− 2.30	1.36	0.0	7	.....	.....	.....	.....	Dr. J. P. Bowdoin.
Albany	Dougherty	230	24	81.3	− 1.6	98	19	65	25	27	6.63	+ 0.96	1.60	0.0	16	.....	.....	.....	.....	Geo C. Brosnan.
Allapaha	Berrien	293	20	82.9	+ 1.5	100	3	66	22	27	3.31	− 2.44	0.54	0.0	14	.....	.....	.....	s‡.	Miss Gladys Lucas.
Americus	Sumter	362	26	81.3	− 1.2	99	4	67	25	24	4.79	− 0.37	1.70	0.0	8	.....	.....	.....	w.	L. A. Smith.
Athens	Clarke	694	32	78.4	+ 0.1	93	3	62	9	23	7.56	+ 2.84	2.45	0.0	15	.....	.....	.....	w.	C. D. Cox.
Atlanta	Fulton	1,218	44	77.2	− 1.5	92	29	62	9	23	2.52	− 1.78	0.82	0.0	9	11	12	8	e.	U. S. Weather Bureau.
Augusta	Richmond	180	43	79.5	− 2.1	96	3	64	8	23	2.63	− 2.20	1.28	0.0	13	6	16	9	s.	U. S. Weather Bureau.
Bainbridge	Decatur	119	17	82.3	+ 0.5	101	4	64	26	28	7.44	+ 1.33	2.35	0.0	15	.....	.....	.....	sw.	Mrs. C. O. Wimberley.
Barnesville[c]	Pike	875	1	75.6	.....	93	28	63	25	25	3.54	.....	0.87	0.0	7	.....	.....	.....	.....	Prof. J. R. Leavell.
Blakely	Early	300	18	83.0	+ 1.3	103	18	61	25†	34	9.28	+ 1.27	2.10	0.0	12	6	23	2	s.	Ralph M. Hobbs.
Brunswick	Glynn	14	11	82.4	− 0.2	96	16†	70	4†	26	6.37	− 0.01	1.22	0.0	5	17	14	0	.....	J. B. High.
Butler	Taylor	650	7	.....	.....	.....	.....	.....	.....	.....	7.99	+ 2.33	2.62	0.0	11	.....	.....	.....	s.	Mrs. Mamie F. Wallace.
Camak	Warren	613	16	77.2	− 3.2	97	3	61	9†	28	4.52	− 0.72	2.02	0.0	9	.....	.....	.....	.....	J. A. Chapman.
Canton	Cherokee	894	16	.....	.....	.....	.....	.....	.....	.....	5.32	+ 0.76	1.26	0.0	7	.....	.....	.....	w.	J. M. McAfee.
Carlton	Madison	557	10	.....	.....	.....	.....	.....	.....	.....	4.40	− 0.56	1.56	0.0	9	.....	.....	.....	w.	M. C. Power.
Carrollton	Carroll	.....	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. H. Melson.
Clayton	Rabun	2,100	16	73.4	− 1.0	92	29	56	21†	28	3.29	− 4.44	1.02	0.0	13	16	11	4	w.	A. J. Duncan.
Columbus[d]	Muscogee	262	22	78.4	− 2.8	100	3†	65	26	30	9.26	+ 3.24	3.62	0.0	13	.....	.....	.....	w.	J. W. Long.
Covington	Newton	800	16	.....	.....	.....	.....	.....	.....	.....	6.24	+ 1.51	2.05	0.0	10	.....	.....	.....	sw.	Rufus Cruse.
Cuthbert[a]	Randolph	446	3	79.8	− 3.0	.....	.....	61	24	27	7.58	.....	3.00	0.0	7	.....	.....	.....	.....	Prof. W. McMichael.
Dahlonega	Lumpkin	1,519	17	76.7	+ 1.5	97	18	58	30	34	4.84	− 0.87	2.42	0.0	8	11	15	5	nw.	Prof. B. P. Gaillard
Diamond	Gilmer	2,020	19	71.8	− 2.7	85	2†	54	25	28	4.85	− 1.86	2.25	0.0	12	16	11	4	.....	R. A. Kimzey.
Douglas	Coffee	500	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. W. Davis.
Dublin	Laurens	452	15	.....	.....	.....	.....	.....	.....	.....	9.20	+ 3.57	3.06	0.0	11	.....	.....	.....	.....	Mrs. M. E. Martin.
Dudley	Laurens	.....	7	80.6	.....	98	3	65	71†	26	8.97	+ 3.65	2.35	0.0	12	9	20	2	w.	J. H. M. O'Sullivan.
Eastman	Dodge	361	18	81.8	− 0.8	101	3	67	25	28	4.52	− 1.60	1.20	0.0	10	.....	.....	.....	w.	Miss A. M. Bohannon
Eatonton[c]	Putnam	.....	6	77.9	.....	97	3	61	25	28	5.92	.....	1.57	0.0	8	.....	.....	.....	.....	Prof. W. C. Wright.
Elberton	Elbert	710	18	76.0	− 3.7	97	3	60	24	29	3.87	− 1.58	1.10	0.0	10	19	10	2	w.	H. A. Roebuck.
Experiment	Spalding	946	9	77.2	− 2.3	91	3	59	25	26	2.66	− 0.88	0.99	0.0	6	2	26	3	.....	Martin V. Calvin.
Fitzgerald	Ben Hill	515	11	80.8	− 1.0	98	16	65	24	28	4.44	− 1.77	1.13	0.0	15	8	18	5	sw.	W. C. Wilkerson.
Forsyth[a]	Monroe	735	27	79.6	− 1.7	96	3	61	24	27	4.96	+ 0.12	1.12	0.0	11	.....	.....	.....	.....	Miss S. A. B. Gibson.
Fort Gaines	Clay	166	22	79.6	− 1.9	95	4	66	26	19	5.55	− 0.32	3.00	0.0	6	.....	.....	.....	se.	Mrs. Eva T. Graham
Gainesville	Hall	1,254	33	76.3	− 4.6	93	3†	59	9	25	3.79	− 1.17	1.22	0.0	7	.....	.....	.....	w.	W. C. Walker.
Gillsville	Hall	1,052	19	78.0	− 0.2	95	3	60	21†	30	2.40	− 3.07	0.63	0.0	6	1	21	9	w.	J. W. Casey.
Glennville	Tattnall	.....	4	81.2	.....	99	18	65	11	24	6.39	.....	1.73	0.0	12	19	8	4	sw.	Wm. C. Barnard.
Gore	Chatooga	.....	11	76.8	− 0.8	96	29	54	25	33	2.71	− 2.96	1.04	0.0	9	19	7	5	nw.	H. M. Ponder.
Greensboro	Greene	598	7	79.2	− 1.2	99	3	64	18†	27	6.58	+ 2.05	2.03	0.0	11	.....	.....	.....	w.	R. L. Caldwell.
Griffin	Spalding	975	20	77.9	− 2.1	95	3	60	25	29	3.49	− 1.61	0.80	0.0	.....	.....	.....	.....	se.	V. P. Enloe.
Harrison	Washington	245	11	78.7	− 1.3	95	3	58	9	27	5.20	+ 0.68	2.40	0.0	10	24	3	4	sw.	A. W. J. Wood.
Hartwell	Hart	838	1	77.8	.....	95	15	61	9†	32	7.26	.....	1.60	0.0	14	19	7	5	sw.	Dr. W. I. Hailey.
Hawkinsville[c]	Pulaski	235	14	80.9	+ 0.4	98	3†	63	27	28	2.34	− 3.45	0.84	0.0	8	2	18	11	s.	R. H. Wood.
Helena	Telfair	260	2	81.4	.....	99	4	65	25	27	2.60	.....	1.21	0.0	12	5	6	20	w.	James D. Smith.
LaFayette	Walker	871	3	76.2	.....	95	15†	49	25	36	4.54	.....	1.00	0.0	11	19	7	5	nw.	Ralph A. Snow.
Lisbon	Lincoln	.....	3	79.1	.....	99	3	62	21†	30	5.58	.....	1.99	0.0	15	16	3	12	s.	B. J. DuBose.
Lost Mountain	Cobb	.....	9	78.2	− 0.5	95	28	55	25	30	2.58	− 2.15	0.60	0.0	9	0	28	3	w.	A. N. Mayes.
Louisville	Jefferson	259	17	78.0	− 2.7	92	3	64	22†	25	8.38	+ 3.12	5.05	0.0	6	14	14	3	.....	J. C. Little.
Lumber City	Telfair	.....	1	.....	.....	.....	.....	.....	.....	.....	2.79	.....	1.14	0.0	12	.....	.....	.....	e.	Walter A. Hilton.
Lumpkin	Stewart	650	16	81.2	− 0.6	100	4	64	2	28	3.72	− 0.89	1.25	0.0	9	1	27	3	sw.	A. W. Latimer.
Macon	Bibb	370	32	79.8	− 1.5	97	3	64	2	26	4.54	+ 0.14	1.33	0.0	7	15	9	9	sw.	U. S. Weather Bureau.
Marshallville[a]	Macon	300	17	81.0	− 0.6	101	3	60	25	34	2.65	− 3.04	0.87	0.0	6	4	20	7	w.	E. C. Bryan.
Mauzy[c]	Colquitt	.....	11	81.2	+ 0.2	96	79†	65	26	29	5.80	− 2.04	2.71	0.0	16	.....	.....	.....	sw.	T. J. Hudson.

TABLE 1.—*Climatological data for July, 1909. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Georgia—Con'd.																				
Milledgeville[a]	Baldwin	276	21	80.6	− 0.2	98	4	63	24	30	4.93	− 0.25	1.52	0.0	9	13	10	8	sw.	Prof. O. M. Cone.
Millen	Jenkins	158	22	80.5	− 1.5	98	7†	62	71†	32	4.48	− 1.53	1.09	0.0	7	.....	.....	.....	se.	M. G. McComb.
Montezuma	Macon	292	4	.....	.....	.....	.....	.....	.....	.....	3.30	.....	1.96	0.0	11	.....	.....	.....	ne.	W. N. Drewry.
Monticello	Jasper	800	13	80.3	+ 0.1	100	3	61	25	29	5.67	+ 0.73	1.36	0.0	11	.....	.....	.....	.....	Miss Maud C. Penn.
Morgan	Calhoun	337	17	79.3	− 1.0	96	4	63	24†	23	7.57	+ 2.31	2.73	0.0	14	17	9	14	.....	J. J. Beck.
Newnan[a]	Coweta	959	21	77.8	− 2.1	94	3†	58	25	29	3.58	− 1.51	0.90	0.0	9	.....	.....	.....	sw.	Mrs. I. J. Milner.
Oakdale	Fulton	810	9	.....	.....	.....	.....	.....	.....	.....	2.88	− 1.88	0.74	0.0	9	.....	.....	.....	sw.	W. R. B. Whittier.
Point Peter[a]	Oglethorpe	1,000	20	77.4	− 1.9	93	3†	59	8†	24	5.37	+ 0.29	1.35	0.0	7	15	13	3	s.	C. M. Witcher.
Poulan	Worth	365	18	79.8	− 0.2	97	4	63	27	27	7.66	+ 2.10	1.67	0.0	14	10	15	6	.....	Dr. J. F. Wilson.
Putnam	Marion	.....	10	79.0	− 2.4	100	4	57	23	29	8.35	+ 4.40	2.50	0.0	9	7	8	16	s.	Mrs. J. M. Collum.
Quitman	Brooks	173	25	80.2	− 1.4	94	3†	66	25†	25	11.12	+ 3.83	5.55	0.0	10	.....	.....	.....	nw.	A. B. Jones.
Ramsey	Murray	1,363	16	75.4	− 2.0	91	15	55	25	28	2.66	− 2.47	1.21	0.0	7	14	13	4	sw.	D. E. Humphreys.
Resaca	Gordon	657	16	.....	.....	.....	.....	.....	.....	.....	2.32	− 1.92	1.10	0.0	3	.....	.....	.....	se.	D. A. Norton.
Rome	Floyd	576	54	77.4	− 2.4	95	29	56	25	31	7.22	+ 3.27	1.88	0.0	.....	.....	.....	.....	e.	W. M. Towers.
St. George	Charlton	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Harris.
St. Mary's	Camden	20	18	81.6	+ 0.6	99	6	64	22	28	5.23	− 0.92	1.53	0.0	11	0	25	6	se.	David C. Sterling.
Savannah	Chatham	65	59	80.2	− 1.5	96	7	67	29	22	6.43	− 0.49	4.04	0.0	13	5	18	8	s.	U. S. Weather Bureau.
Statesboro	Bullock	253	9	81.0	− 0.6	98	7†	65	11	27	5.96	− 0.18	2.08	0.0	10	12	17	2	.....	J. C. Cromley.
Talbotton	Talbot	750	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. W. T. Dennis.
Tallapoosa	Haralson	1,150	11	77.8	− 0.5	97	29	55	25	34	8.68	+ 3.67	2.30	0.0	.....	.....	.....	.....	se.	R. M. Strickland.
Thomasville	Thomas	273	26	80.4	− 1.0	95	3	65	26	27	6.47	− 0.35	1.69	0.0	17	5	17	9	sw.	U. S. Weather Bureau.
Toccoa	Stephens	1,050	24	73.6	− 4.4	91	3	57	9	29	3.94	− 2.08	0.63	0.0	8	.....	.....	.....	w.	E. A. Newton.
Valdosta	Lowndes	219	4	82.2	+ 0.7	99	3†	66	25†	31	3.35	.....	0.80	0.0	8	.....	.....	.....	e.	Miss Annie L. Twitty.
Valona	McIntosh	10	9	80.6	+ 0.3	97	18	63	23	29	3.28	− 2.50	1.33	0.0	6	21	8	2	sw.	J. M. Atwood.
Washington	Wilkes	630	22	78.1	− 2.3	98	3	63	24	26	8.45	+ 3.48	1.32	0.0	12	.....	.....	.....	sw.	Miss Ella B. Smith.
Waycross	Ware	131	20	82.0	− 0.2	99	4	64	22	26	6.89	+ 0.94	2.34	0.0	16	.....	.....	.....	s.	Thos. Sasser.
Waynesboro	Burke	86	18	77.7	− 3.2	93	3	60	11†	26	9.08	+ 2.64	2.10	0.0	10	.....	.....	.....	•s.	Mrs. H. W. Blount.
West Point	Troup	620	21	80.4	− 1.3	100	3	60	25	29	3.80	− 0.82	0.80	0.0	12	.....	.....	.....	nw.	Miss B. J. Black.
Woodbury[a]	Meriwether	641	9	75.7	− 3.6	95	6	45	25	32	5.18	+ 1.06	2.12	0.0	8	.....	.....	.....	se.	G. A. Wright.
Alabama.																				
Alaga	Houston	105	4	.....	.....	.....	.....	.....	.....	.....	8.73	.....	2.34	0.0	16	6	5	20	s.	James L. Willis.
Anniston	Calhoun	741	18	77.6	− 0.3	95	3	55	25	29	4.65	− 0.08	1.50	0.0	8	6	17	17	se.	U. S. Weather Bureau.
Ashville	St. Clair	685	16	78.5	+ 0.2	98	7	52	25	37	3.08	− 2.10	0.80	0.0	10	19	6	6	sw.	George R. Cather.
Auburn	Lee	732	20	80.2	+ 0.5	97	3†	61	25	27	5.01	− 0.62	1.26	0.0	15	3	12	16	sw.	James T. Anderson.
Benton	Lowndes	149	8	.....	.....	.....	.....	.....	.....	.....	2.95	.....	1.00	0.0	5	19	4	8	e.	S. T. Pruitt.
Bermuda	Conecuh	.....	22	80.8	+ 0.7	97	4	63	25	25	7.05	+ 2.35	1.65	0.0	15	8	21	2	nw.	M. J. Morris.
Birmingham	Jefferson	700	21	79.2	− 0.6	94	3	61	25	25	4.93	+ 0.23	1.98	0.0	8	3	26	2	s.	U. S. Weather Bureau.
Boligee	Greene	119	5	83.2	.....	100	29	59	24†	34	2.60	.....	1.45	0.0	7	28	2	1	s.	Guy P. Brugh.
Calera	Shelby	500	8	.....	.....	.....	.....	.....	.....	.....	3.63	.....	2.68	0.0	3	22	3	6	e.	L. G. Privett.
Camp Hill[a]	Tallapoosa	738	8	79.2	.....	96	2	58	25	27	3.82	.....	0.75	0.0	14	14	13	4	e.	Dr. Lyman Ward.
Cedar Bluff	Cherokee	594	5	.....	.....	.....	.....	.....	.....	.....	4.50	.....	1.50	0.0	6	22	9	0	.....	Joe L. Daniel.
Citronelle	Mobile	331	21	81.6	+ 0.7	97	4	64	25†	28	2.42	− 3.94	1.17	0.0	11	16	15	0	s.	George A. Maloney.
Clanton	Chilton	590	16	80.1	+ 0.3	96	3†	60	25†	28	6.51	+ 2.04	2.60	0.0	14	6	0	25	e.	Wallace C. Edler.
Cordova	Walker	334	15	79.3	+ 0.2	97	13	56	26	33	3.66	− 1.57	1.32	0.0	8	12	13	6	s.	Scott Maxwell.
Cullman	Cullman	802	2	77.9	.....	95	28	52	25	34	2.07	.....	0.60	0.0	10	13	13	5	nw.	Eugene A. Grayot.
Dadeville	Tallapoosa	760	4	.....	.....	.....	.....	.....	.....	.....	3.63	.....	1.05	0.0	11	11	11	9	e.	Dr. W. B. Fulton.
Daphne[a]	Baldwin	.....	18	81.6	+ 0.7	94	3	65	26	23	8.79	+ 1.97	2.00	0.0	15	10	6	15	sw.	John H. Young.
Demopolis	Marengo	.....	17	.....	.....	.....	.....	.....	.....	.....	1.56	− 2.64	0.96	0.0	5	17	10	4	sw.	George E. Pegram.
Double Springs	Winston	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Charles D. Hudgins.
Eufaula	Barbour	200	25	78.0	− 2.6	95	4	61	17	28	8.46	+ 2.27	3.28	0.0	14	14	6	11	sw.	Dr. J. B. Whitlock.
Evergreen	Conecuh	285	25	81.0	+ 0.4	99	3	63	25	27	6.76	+ 0.61	2.00	0.0	12	10	2	19	n.	Robert L. Whitcomb.
Fayette[a]	Fayette	359	.....	80.8	.....	97	3	59	24	30	4.91	.....	1.15	0.0	7	15	14	2	.....	W. V. Burns.
Flomaton	Escambia	91	7	82.0	+ 1.2	100	4	60	25	28	3.40	− 3.20	0.70	0.0	10	18	2	11	s.	T. J. Farris.
Fort Deposit	Lowndes	520	25	82.0	+ 0.8	97	17	62	24	25	6.73	+ 1.94	3.50	0.0	8	20	0	11	n.	J. L. Parish.
Gadsden	Etowah	621	15	79.1	− 0.5	99	30	56	25	30	4.94	+ 0.45	1.98	0.0	6	11	5	15	e.	D. P. Goodhue.
Goodwater	Coosa	826	23	79.0	− 1.5	95	5†	60	24†	29	4.15	− 1.29	0.85	0.0	9	21	0	10	se.	D. S. Brown.
Greensboro	Hale	220	30	82.0	+ 1.8	96	3	66	24†	23	3.07	− 0.73	2.31	0.0	4	20	1	10	e.	W. E. W. Yerby.
Greenville	Butler	444	8	.....	.....	.....	.....	.....	.....	.....	5.72	.....	1.69	0.0	7	22	0	9	se.	E. M. Lewis.
Hamilton	Marion	.....	13	80.8	+ 1.6	101	30	57	26	32	5.56	+ 1.53	2.70	0.0	6	22	0	9	sw.	Prof. H. O. Sargent.
Highland Home	Crenshaw	.....	17	79.9	+ 0.1	96	4†	61	11†	33	3.94	− 1.49	1.12	0.0	13	17	8	6	sw.	Prof. Samuel Jordan.
Livingston	Sumter	160	25	82.2	+ 0.9	97	29	62	26	31	6.35	+ 1.97	4.90	0.0	5	22	0	9	e.	Robert L. King.
Lock No 4	Talladega	510	12	79.7	− 0.5	98	28	56	25	32	3.74	− 1.46	1.20	0.0	11	25	0	6	w.	U. S. Engineers.
Lucy	Houston	.....	4	80.6	.....	97	4	61	25†	29	6.06	.....	1.19	0.0	16	4	21	6	.....	A. L. Crosby.
Maple Grove	Cherokee	.....	16	78.0	− 0.6	97	7†	55	24	33	5.82	+ 1.12	1.54	0.0	9	13	16	2	nw.	Mrs. A. L. Awbrey.
Mentone	De Kalb	1,595	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Mason.
Milstead	Macon	.....	6	.....	.....	.....	.....	.....	.....	.....	3.97	.....	1.76	0.0	9	7	16	8	e.	Evie Oswalt.
Mobile	Mobile	57	37	82.7	+ 2.2	98	4	68	25	22	8.28	+ 1.24	2.02	0.0	15	6	20	5	sw.	U. S. Weather Bureau.
Montgomery	Montgomery	223	37	81.0	0.0	96	3	65	25	23	4.21	− 0.47	1.58	0.0	11	9	15	7	s.	U. S. Weather Bureau.
Newbern	Hale	.....	16	81.8	0.0	98	3†	62	25	30	3.34	− 0.80	0.99	0.0	7	5	25	1	s.	Dr. J. Huggins.
Oneonta	Blount	857	15	77.0	− 0.8	94	13†	50	25	36	4.85	− 1.35	1.60	0.0	11	10	6	15	n.	Aquilla J. Ketchum.
Opelika	Lee	817	30	79.2	− 1.2	94	4	61	25	27	2.45	− 2.67	0.70	0.0	9	13	6	12	w.	A. H. Read, Jr.
Ozark	Dale	400	7	80.2	.....	97	3	63	25	26	5.30	.....	1.65	0.0	10	11	17	3	w.	Miss Lucy Sellers.
Prattville[b]	Autauga	381	9	80.4	.....	97	3	59	26	28	2.35	.....	1.15	0.0	6	13	15	3	s.	Jos. B. Bell.
Pushmataha	Choctaw	.....	18	82.9	+ 2.1	101	16†	60	25†	35	2.43	− 2.57	0.96	0.0	9	14	17	0	ne.	E. A. Carr.
Selma	Dallas	147	29	79.6	− 2.1	100	3†	62	24†	30	3.64	− 0.96	1.30	0.0	9	16	9	6	e.	Charles F. Brislin.
Spring Hill	Mobile	312	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. T. E. Stritch.
Talladega	Talladega	554	19	78.6	− 1.8	94	3†	55	26	34	0.79	− 3.96	0.60	0.0	5	19	4	8	sw.	Ross Bartholomew.
Tallassee	Elmore	.....	18	.....	.....	.....	.....	.....	.....	.....	3.70	− 0.70	1.19	0.0	9	10	7	14	n.	P. A. Noble.
Thomasville	Clarke	385	18	81.0	− 0.4	98	8	63	24	27	6.78	+ 1.93	1.69	0.0	10	19	4	8	s.	J. G. Forster.
Troy	Pike	552	1	79.0	.....	94	4	64	25	22	4.56	.....	1.35	0.0	14	11	20	0	se.	C. S. Tutwiler.
Tuscaloosa	Tuscaloosa	230	28	82.5	+ 1.2	99	3	63	26	29	2.09	− 2.36	0.86	0.0	8	20	0	11	s.	W. S. Wyman.
Tuskegee	Macon	.....	9	81.6	.....	98	3†	64	25†	27	4.60	.....	1.45	0.0	11	1	24	6	w.	Prof. Geo. W. Carver.
Union Springs	Bullock	216	22	80.4	− 0.9	95	4†	64	25†	25	5.99	+ 0.67	1.35	0.0	14	2	28	1	e.	P. L. Cowan.
Uniontown[a]	Perry	273	23	82.0	+ 1.1	100	3	63	26	27	2.41	− 2.68	0.96	0.0	5	10	12	9	se.	F. D. Stevens.
Valley Head	De Kalb	1,031	24	77.5	+ 0.4	95	29	58	18	32	7.83	+ 2.80	2.30	0.0	6	22	3	6	se.	Dr. E. P. Nicholson.
Vienna	Pickens	590	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. L. Boone.
Wetumpka	Elmore	205	17	81.0	− 1.0	97	4†	60	27	30	2.69	− 2.33	0.71	0.0	5	17	0	14	e.	U. S. Engineers.
Florida.																				
Apalachicola	Franklin	24	5	81.5	− 0.2	92	8†	72	22†	18	14.66	+ 7.93	6.37	0.0	20	4	19	8	se.	G. A. Whiteside.
Arcadia	DeSoto	61	8	81.2	.....	94	6†	68	26	25	9.34	+ 0.24	1.74	0.0	19	10	3	18	w.	C. S. Bushnell.
Archer	Alachua	92	24	82.0	+ 1.2	100	17	66	22†	30	18.03	+ 9.51	3.45	0.0	16	2	23	6	.....	R. B. Hodgson.
Avon Park	DeSoto	150	11	81.4	− 0.2	95	7†	69	23	24	12.95	+ 5.13	4.70	0.0	19	9	12	10	se.	O. R. Thacher.
Bartow	Polk	115	13	81.6	− 0.3	98	8	68	23†	26	13.31	+ 6.31	3.65	0.0	19	7	21	3	ne.	Wm. Hood.
Blountstown	Calhoun	.....	2	81.6[a]	.....	95[a]	5†	65[a]	25	25	10.52	.....	3.96	0.0	8	.....	.....	.....	.....	C. L. Hobbs.
Bonifay	Holmes	111	8	81.1	.....	98	4	64	25	26	6.85	+ 1.01	1.37	0.0	13	3	4	24	s.	Wm. Rush.
Brooksville	Hernando	126	17	80.0	− 0.8	96	20	69	30	25	19.89	+10.31	5.20	0.0	17	12	10	9	.....	C. C. Peck.
Carrabelle	Franklin	10	13	81.4	− 0.3	91	4†	67	26	23	16.65	+10.71	5.26	0.0	9	.....	.....	.....	.....	J. J. Blomquist.

TABLE 1.—*Climatological data for July, 1909. District No. 2*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Florida—Cont'd.																				
Cedar Keys	Levy	10	12	81.6	− 0.6	92	21	69	29	19	25.57	+16.63	7.50	0.0	13	21	6	4	s.	J. B. Lutterloh.
Clermont	Lake	105	16	82.2	− 0.8	97	7†	70	21	23	17.01	+10.23	6.25	0.0	17	0	26	5	se.	S. S. Fesler.
DeFuniak Springs	Walton	193	14	81.3	+ 0.9	98	4	68	25†	25	6.95	− 0.06	1.67	0.0	15	8	14	9	s.	R. W. Storrs.
DeLand	Volusia	27	13	79.4	− 1.1	94	18	68	22†	22	18.94	.....	7.22	0.0	16	10	9	12	sw.	O. B. Webster.
Eustis	Lake	56	17	81.2	− 1.1	98	18	68	28	24	20.00	+13.72	.....	0.0	16	14	8	9	sw.	C. T. Smith.
Federal Point	Putnam	5	17	81.7	+ 1.2	98	18	61	23	33	6.81	− 0.14	1.55	0.0	5	22	3	3	w.	E. S. Hubbard.
Fenholloway	Taylor	75	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Wigglesworth.
Fernandina	Nassau	10	12	81.0	− 0.3	96	7	69	23	23	4.85	− 1.58	1.11	0.0	14	13	15	3	se.	W. B. C. Duryee.
Flamingo	Monroe	4	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. R. Bradley.
Fort Meade	Polk	125	17	81.2[g]	+ 0.9	95[g]	20	68[g]	23†	23	14.68	+ 6.02	3.43	0.0	19	11	12	8	sw.	G. L. Brodrick.
Fort Myers	Lee	12	17	80.2	− 0.7	92	17	70	1†	21	5.76	− 2.50	1.40	0.0	14	14	17	0	sw.	M. M. Gardner.
Fort Pierce	St. Lucie	6	8	80.9[b]	− 0.5	95[b]	4	68[b]	3†	23	9.49	+ 3.92	4.50	0.0	13	.....	.....	.....	se.	R. L. Goodwin.
Gainesville	Alachua	176	23	80.1	− 1.3	94	7†	67	23	25	16.41	+ 8.93	5.71	0.0	20	8	6	17	.....	J. P. H. Bell.
Grasmere	Orange	175	13	80.6	− 1.8	95	20	65	23	26	16.51	+ 9.45	5.87	0.0	18	.....	.....	.....	.....	J. B. Escott.
Hilliard	Nassau	19	1	79.7	.....	96	3†	63	22†	29	10.40	.....	3.15	0.0	14	6	9	16	.....	D. W. Griffing.
Huntington	Putnam	56	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hypoluxo	Palm Beach	4	9	80.8	− 0.3	93	8†	69	25†	22	9.31	+ 4.06	1.95	0.0	17	15	10	6	se.	G. A. Angervine.
Inverness	Citrus	43	8	78.8	− 1.9	92	17†	65	23	24	22.57	+12.79	8.40	0.0	20	1	15	15	sw.	W. H. Miller.
Jacksonville	Duval	101	37	80.8	− 0.1	94	4	70	29	22	8.43	+ 2.23	2.79	0.0	20	4	20	7	sw.	U. S. Weather Bureau.
Jasper	Hamilton	152	11	79.3	− 2.1	95	4†	64	2†	30	5.48	− 1.08	2.05	0.0	11	.....	.....	.....	.....	G. W. Duncan.
Johnstown	Bradford	125	14	81.0	− 0.4	98	5†	64	22	30	10.04	+ 2.14	1.98	0.0	17	.....	.....	.....	.....	A. M. C. Brasch.
Jupiter	Palm Beach	34	21	80.6	− 0.4	92	8	70	24	19	6.61	− 1.24	1.53	0.0	19	7	19	5	sw.	U. S. Weather Bureau.
Key West	Monroe	14	38	83.0	− 0.7	90	30	74	17	16	1.21	− 2.38	0.37	0.0	8	1	19	11	e.	U. S. Weather Bureau.
Kissimee	Osceola	65	17	80.8	− 1.3	94	7	68	23	22	11.28	+ 4.31	2.35	0.0	19	8	14	9	sw.	J. A. Simpson.
Lake City	Columbia	210	20	79.8	− 1.3	94	5	65	23	26	15.05	+ 7.82	4.13	0.0	20	2	14	15	sw‡	W. B. Knight.
Live Oak	Suwanee	109	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. O. Henry.
Macclenny	Baker	125	13	80.2[i]	− 1.7	95[i]	3†	62[i]	22	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	Griffing Bros. Co.
Madison	Madison	200	6	80.4	− 0.8	97	2†	68	26†	26	18.04	+10.29	4.15	0.0	21	3	10	18	sw.	E. J. Vann.
Malabar	Brevard	24	8	81.8	+ 0.2	98	7	68	30	25	7.34	+ 2.36	2.25	0.0	13	21	7	3	se.	J. F. Farley.
Manatee	Manatee	8	17	81.0	.....	94	31	68[a]	5	29	12.40	+ 1.56	4.25	0.0	22	5	22	4	nw.	F. C. Whitaker.
Marianna	Jackson	80	9	81.5[b]	+ 0.7	100[b]	4	62[b]	25	28	9.21	+ 3.57	2.32	0.0	14	.....	.....	.....	sw.	J. L. Behymer.
Merritt's Island	Brevard	20	30	81.0	− 0.4	93	7	65	21	23	8.50	+ 3.00	1.60	0.0	13	10	8	13	se.	C. D. Provost.
Miami	Dade	5	13	81.8	− 0.4	95	24	70	2	23	4.38	− 2.84	1.33	0.0	6	18	7	6	se.	E. V. Blackman.
Middleburg	Clay	10	8	81.0[d]	− 0.7	102[d]	5	63[d]	23	32	10.17	+ 2.63	1.30	0.0	17	.....	.....	.....	.....	G. A. Chalker.
Molino	Escambia	49	8	81.6	+ 1.7	99	4†	61	25	31	7.31	− 0.42	1.65	0.0	10	18	12	1	s.	W. H. Trimmer.
Monticello	Jefferson	207	4	79.7	− 0.2	92	4	63	1	17	9.16	+ 2.03	2.95	0.0	16	2	23	6	sw.	E. C. Potter.
Mt. Pleasant	Gadsden	260	5	79.6	− 0.6	93	4	63	26	26	10.01	.....	2.10	0.0	19	.....	.....	.....	.....	Miss A. Grubb.
Newport	Wakulla	.....	8	79.4	− 1.8	92	3†	65	26†	23	6.25	+ 0.12	1.90	0.0	8	23	0	8	s.	J. W. Ladd.
New Smyrna	Volusia	9	21	79.9	− 0.6	95	6	65	21	20	15.32	+10.27	8.80	0.0	17	.....	.....	.....	.....	F. Nordman.
Ocala	Marion	98	22	81.2	− 0.2	98	18	66	23	28	10.62	+ 2.75	3.75	0.0	17	1	26	4	.....	F. T. Schreiber.
Orange City	Volusia	39	19	82.0	− 0.5	100	18	62	22	32	18.25	+12.55	7.82	0.0	17	12	12	7	sw.	J. D. Graham.
Orlando	Orange	111	17	81.0	− 1.1	94	7†	65	23	29	12.71	+ 5.94	4.10	0.0	13	6	11	14	w.	James Thomson.
Pensacola	Escambia	149	31	81.5	+ 0.1	91	1	71	30	16	4.54	− 2.73	2.76	0.0	9	2	18	11	sw.	U. S. Weather Bureau.
Plant City	Hillsboro	121	17	80.6	− 0.6	95	18	69	23†	24	7.09	− 1.19	2.70	0.0	10	.....	.....	.....	.....	E. B. Trask.
Rockledge	Brevard	28	1	80.2	.....	91	24	67	23	21	3.62	.....	0.70	0.0	10	15	14	2	se.	J. H. White.
Rockwell	Marion	10	10	80.1[d]	− 2.1	94[d]	21	60[d]	29	29	26.00	+17.61	12.00	0.0	14	.....	.....	.....	w.	Dunellon Phos. Co.
St. Andrew	Washington	14	14	82.7	+ 1.0	94	8	68	25†	22	7.70	− 0.28	2.66	0.0	17	8	6	17	w.	W. A. Emmons.
St. Augustine	St. Johns	10	59	80.8	+ 0.1	94	3†	64	29	21	8.04	+ 2.55	2.80	0.0	12	5	16	10	se.	J. R. Palmer.
Sand Key	Monroe	44	6	81.8	− 0.7	88	12	69	18	16	2.65	+ 0.48	1.75	0.0	5	7	17	7	e.	U. S. Weather Bureau.
St. Leo	Pasco	140	14	80.0	− 1.8	93	15†	68	23	24	14.17	+ 5.18	3.91	0.0	20	8	11	12	w.	G. Schneider.
Satsuma Heights	Putnam	98	1	80.3	.....	97	17	63	23	30	9.05	.....	2.27	0.0	18	5	18	8	.....	Satsuma Co.
Switzerland	St. Johns	10	13	80.3[e]	− 0.1	93[e]	4†	67[e]	22	22	9.04	+ 1.26	1.80	0.0	18	.....	.....	.....	w.	W. C. Steele.
Tallahassee	Leon	192	24	79.6	− 0.8	95	6	68	26	23	5.15	− 2.75	2.20	0.0	18	9	10	12	s.	W. H. Markham.
Tampa	Hillsboro	79	19	80.4	+ 0.4	93	20	69	20	24	10.47	+ 2.04	3.13	0.0	17	7	13	11	e.	U. S. Weather Bureau.
Tarpon Springs	Hillsboro	20	16	80.0	− 0.9	94	18	68	27	23	17.03	+ 8.48	4.65	0.0	22	16	9	6	w.	A. P. Albaugh.
Titusville	Brevard	6	17	82.6	+ 1.9	97	20†	67	23†	30	8.25	+ 2.18	5.55	0.0	8	11	12	12	se.	F. M. Taylor.
Wausau	Washington	250	12	82.7	+ 0.9	100	4	60	25	34	6.00	− 0.93	2.00	0.0	11	6	15	10	s.	C. Jones.
Mississippi.																				
Aberdeen	Monroe	210	21	81.4	+ 0.8	98	3	61	26	29	6.59	+ 1.97	2.32	0.0	7	21	2	2	n.	L. D. Godfrey, Jr.
Agricultural College	Oktibbeha	429	19	81.5	+ 0.4	98	28†	63	24†	31	3.25	− 1.38	0.87	0.0	7	11	19	0	e.	Prof. W. R. Perkins.
Bay St Louis	Hancock	28	16	82.0	+ 0.6	94	8†	66	25	23	10.18	+ 3.30	3.43	0.0	17	12	10	9	s.	Brother Stanislaus.
Biloxi	Harrison	24	18	83.4	+ 1.5	96	4	67	25	25	6.21	− 0.24	1.97	0.0	15	11	12	6	sw.	Miss M. Josie Pope.
Booneville	Prentiss	504	15	79.2	− 0.6	96	29	58	20	29	2.77	− 1.83	0.90	0.0	11	15	16	0	sw.	Dr. D. T. Price.
Brookhaven	Lincoln	500	21	82.6	+ 1.0	99	4†	62	25	29	6.57	+ 0.97	1.90	0.0	13	13	11	7	e.	W. J. Bee.
Columbia	Maroon	100	5	.....	.....	.....	.....	.....	.....	.....	7.28	+ 1.70	1.96	0.0	14	18	10	3	nw.	N. R. Drummond.
Columbus	Lowndes	250	21	82.2	0.0	99	3	61	24†	31	1.60	− 3.32	1.10	0.0	5	21	6	4	se.	J. B. Love.
Crystal Springs	Copiah	468	17	81.8	+ 0.8	97	15	66	24†	26	4.76	− 1.17	1.71	0.0	12	21	10	0	.....	D. H. Miller.
Edinburg	Leake	.....	1	81.2[b]	.....	101[b]	29	58[b]	24	36[b]	2.46	.....	1.77	0.0	7	16	11	3	s.	J. Y. Blocker.
Enterprise	Clarke	248	4	.....	.....	.....	.....	.....	.....	.....	2.33	− 1.73	0.90	0.0	9	.....	.....	.....	.....	J. B. Thompson.
Fulton	Itawamba	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.82	.....	1.72	0.0	8	23	2	6	s.	A. L. Summers.
Hattiesburg	Forest	154	16	82.4	+ 0.2	99	22†	62	25†	30	.....	.....	.....	0.0	...	13	2	15	s.	T. C. Spence.
Hazlehurst	Copiah	460	19	82.2	+ 1.3	99	15	64	25	30	4.97	+ 0.10	2.05	0.0	12	19	6	6	e.	J. D. Granberry.
Jackson	Hinds	288	22	83.0	+ 1.7	99	29	63	24	30	1.57	− 3.02	0.35	0.0	9	14	13	4	s.	Frank J. Heintz.
Lake	Scott	446	21	81.5	+ 1.6	98	15	61	24†	29	3.76	− 1.36	1.45	0.0	11	15	5	11	w.	J. A. Freeman.
Lake Como	Jasper	.....	6	82.4	+ 1.7	100	4	63	25†	34	3.52	− 1.46	0.80	0.0	8	7	21	3	s.	C. Thigpen.
Laurel	Jones	241	5	80.6[a]	− 0.3	97[a]	15	64[a]	25	29[a]	8.33	+ 0.53	3.42	0.0	10	23	5	3	sw.	Thos. W. Flynt.
Leakesville	Greene	.....	15	81.8[j]	+ 0.5	96[j]	17	64[k]	25	25[l]	6.51	− 0.92	1.40	0.0	13	16	12	2	.....	Dr. Samuel Pool.
Louisville	Winston	561	20	81.2	+ 1.7	98	29	61	26	29	2.34	− 2.53	1.59	0.0	4	.....	.....	.....	.....	B. T. Webster.
Macon	Noxubee	185	21	82.0	+ 0.4	100	29	60	26	32	1.39	− 3.67	0.50	0.0	4	9	16	6	w.	Finis E. Carleton.
McNeill	Pearl River	230	6	81.5	+ 0.8	97	3†	61	26	29	7.64	− 0.93	2.25	0.0	15	11	15	5	s.	Prof. E. B. Ferris.
Magnolia	Pike	415	13	81.8	+ 0.5	98	15	62	25	29	7.18	− 0.40	1.55	0.0	15	8	20	3	ne.	Miss Ruby V. Roberts.
Meridian	Lauderdale	375	19	80.8	+ 0.8	95	3	61	25	27	2.46	− 2.04	1.02	0.0	8	6	21	4	sw.	U. S. Weather Bureau.
Merrill	Greene	76	4	.....	.....	.....	.....	.....	.....	.....	5.74	− 0.08	1.42	0.0	11	8	11	12	nw.	L. C. Helms.
Monticello	Lawrence	209	2	81.7	.....	100	15	61	25	30	8.87	.....	3.50	0.0	13	13	13	5	se.	Dr. G. A. Teunisson.
Okolona	Chickasaw	311	21	81.0	− 1.2	99	13	62	24†	28	6.48	+ 2.54	2.70	0.0	6	22	4	5	s.	D. H. Shell.
Pascagoula	Jackson	15	...	82.0	.....	95	4	64	25	26	8.81	.....	3.30	0.0	13	11	17	3	sw.	Tom Swartwout.
Pearlington	Hancock	10	21	81.4	+ 0.5	95	14	66	25	25	8.22	+ 1.44	2.50	0.0	15	5	21	5	sw.	Miss Annette Koch.
Porterville	Kemper	.....	4	82.0[a]	+ 1.7	100[a]	29	59[a]	25	33	2.64	− 1.63	1.82	0.0	6	14	9	7	e.	W. G. Sanders.
Shubuta	Clarke	201	4	.....	.....	.....	.....	.....	.....	.....	3.76	− 0.93	1.98	0.0	10	.....	.....	.....	.....	Geo .A. Floyd.
Waynesboro	Wayne	191	22	81.3	+ 0.4	96	3†	63	25†	27	7.15	+ 2.14	2.50	0.0	9	18	5	8	w.	R. S. Burke.
Woodland	Chickasaw	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.76	.....	1.38	0.0	7	.....	.....	.....	.....	Tallahatchie Drain. Com.
Louisiana.																				
Pearl River	St. Tammany	.....	4	.....	.....	.....	.....	.....	.....	.....	5.53	.....	1.58	0.0	18	.....	.....	.....	.....	Geo. F. Bancks.

TABLE 2.—*Daily precipitation for July, 1909. District No. 2, South Atlantic and east Gulf States.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Virginia.																																	
Arvonia	James	T.				T.	1.16						.01				.17		T.				T.	.01				.25				.12	1.72
Ashland	do						.42							T.	.66	.05	.08							T.				T.			T.	.70	1.91
Buchanan‖	do		T.				.33	.71						.33			.23			.22				.60	T.			.49		.32	.37		3.60
Callaville	Chowan			.60		.30	1.61							T.	.40		1.00						.02					.69				1.16	5.78
Cape Henry	Coast			.30			1.28								.76	T.	.18			.02			.11	T.				.01	.01		1.17	.09	3.93
Charlottesville	James						.10						T.	T.	T.	.11							T.	.10			.20				T.	.03	.054
Clarkesville‖	Roanoke	.25	1.30					.75										.20							.05				.43				2.98
Columbia	James																																
Danville‖	Roanoke	2.06	2.22				.32	.25	.04					T.	.06									T.	.07			.18	.20		T.		5.40
Diamond Springs	Coast						2.13								.30	1.20	.60							.14								1.30	5.67
Dinwiddie	Chowan																																
Hampton	Coast			.50			2.27	.10							.29	T.	.51	.10					.05	.49									4.22
Hot Springs‖	James	.02	.79				.69	.03							.02					.02				.88				.08		.12	.84		3.49
Ivor	Chowan						2.30	.50							.05		1.70							.10				.02			.80		5.47
Lexington	James	1.51				.05	.72						T.	T.						.02							T.	1.20	.01	.27	.15	.39	4.32
Lynchburg	do	.09				.07	.85						.02	T.	.03		.17		T.					T.				.61		.01		T.	1.85
Newcastle‖	do						1.38	1.54															.50										3.42
Newport News	Coast			1.09			2.34	.02							.26	T.	.26			.01			.03	.95				.01			.04	.26	5.27
Norfolk	do			T.			1.70	.02							1.86		.18		T.	.03			.02	.05				.04	.01		24	.26	4.41
Petersburg	James																																
Randolph‖	Roanoke						.60	1.01										42											1.06				3.09
Richmond	James						.78				T.			T.	.02	T.	T.		.16			T.	T.	.25				T.		.04	T.	T.	1.25
Rockymount	Roanoke	.40					.74	.16						.08				.19		.06			.40					.62		.77			3.42
Sabot	James						.71																	.10				.44					1.25
Saxe	Roanoke						2.05										.60			.04								.45				.25	3.39
Spottsville (near)	Chowan					.49	1.85							T.	.30	T.	.33		.38				T.	.52				.20				1.26	5.33
Williamsburg	James																																
North Carolina.																																	
Beaufort	Bogue Sound		.01				.07	.55								.02	.02	2.58							.17			.37		.01			3.80
Belhaven	Pungo	.55	.42		1.41		.87	.06							1.12		.06	.70						2.19				1.33					8.71
Brewers	Pedee																																
Caroleen	Santee			T.			.18	.69	.18	.44	T.		.06			.15							T.	.12				1.39	.01	1.63			4.85
Chadbybeate Springs	Cape Fear	.86	.13	T.		T.	.41	.32					2.21	.22	2.19	.25	.36	T.						.29				1.13			T.	.13	8.50
Chapel Hill	do	T.	.56	T.			.30	T.					.06			.84	.04							.30				1.44	.16				3.70
Charlotte	Santee	.37					.25	.04	.01	.01			.41	.11			.02		.01				.34	.08			T.	.89	.01		.15		2.70
Chimney Rock	do																																
Clinton	Cape Fear																																
Eagletown	Chowan	T.	.10	.05		T.	.60	.02						T.	T.	.12	.21						T.	.23				.68			.04	.08	2.13
Edenton	Albemarle Sound																																
Fayetteville‖	Cape Fear	.50	.20				T.	.20							.67		.28	.88						T.	.30				.41	T.		.21	3.65
Goldsboro‖	Neuse	.17	1.36					1.43							.35	.15	.75	3.17	.05				T.	T.	.21				1.30	.37		.28	9.79
Graham‖	Cape Fear	1.61	.57		.30			.18	.03					.52			.08							T.	.12				.61	.20			4.22
Greensboro‖	do	.30	.55		.15			.47	.15					.30	.75									.05	.07			.15	.75	.10			3.79
Greenville‖	Tar	3.75	1.50		.57			1.35										1.96							.97				4.10				14.20
Hatteras	Pamlico Sound	.10	.02				.13	.06				.01				.01	.54	.22	.02					.22	.38			.01	.78				2.50
Henderson	Tar	.34	.54				T.	.40					.03	T.			.12							1.14				.78			.12	1.52	4.99
Kinston	Neuse	.50	.21	.30			.61	.65								1.43	2.34		.04					.81				1.83			.83	8.55
Lenoir	Santee	1.75	.14	.23			.15	.57	.16	.03			.44	.05	.03								.98	.05				1.37	.68	.40		.30	7.33
Lexington	Pedee	1.55					.16	.60				.21	.15										.45	.06				3.43	.53				7.14
Lincolnton	Santee					.40	.03	.12	1.05				1.76				.26							1.01				2.00		.76		.60	7.99
Louisburg‖	Tar	.17	1.32			T.		.62							.30		.10	.18							.30			T.	1.20	T.	T.		4.19
Lumberton	Lumber	.43	.68				.39	.40		T.							.53	.02		T.				.13	.29		T.		.70	.02			3.59
Manteo	Roanoke Sound			.74			.80	.28							3.68	.22								1.30				1.00				.50	8.52
Marion	Santee	.85		T.			.54	.36	.28	.08	.03		1.26	.12		T.							.03	.11				1.81	.84	.04	.26	.10	6.71
Moncure‖	Cape Fear	.10	.24		.01			.54	.07						.08		1.99	.23						.12	.54			.50	1.42	.25		.01	6.10
Monroe	Pedee						.68		T.					.26		.68	T.						.24	.50				.36		.26			2.98
Morgantown	Santee	3.52					.15	.43		T.	T.		1.23		.75									.54				1.05	.41	.25		.55	8.88
Mount Airy	Pedee		.05				.12	.24						.70			.38						.77	.18				.60	.53	.15		.44	4.16
Mount Holly‖	Santee		.10					.24	T.	.20					.60				.08	.52				T.				1.78	.16			.34	4.02
Nashville‖	Tar	.03	.88		T.			.71	T.						.72	.18	.42	.30							.21				1.06			.11	4.62
Newbern‖	Neuse	1.24	.51		T.			.86	T.								32	1.94						T.	.99				.87	.02			6.75
Pinehurst	Lumber		.32		.02		.42	.09					1.22			.16	.36	.74						1.36				1.05	.77	.02	.38	.01	6.92
Pittsboro	Cape Fear																																
Raleigh	Neuse		.16	.56			1.74	.02						.01		.89	.31						T.	.52				2.39	T.			.24	6.84
Ramseur	Cape Fear	1.61		.79			.75	.27						.83	.23									.32				1.38	.20				6.38
Randleman‖	do	.60	.22		.03			1.18	.19					.18	.30									.02	.64			.32	.59	.27			4.54
Reidsville‖	do	.19	1.28		.22			.22	.09					.06	.25													.16	.46	.26			3.19
Rockingham	Pedee	.19					.90							.45	.55		.06	.06					.63	.25				1.07					4.16
Roxboro	Roanoke																																
Salem	Pedee																																
Salisbury‖	do	.49						.13	.08	.03				.46	.10													1.20	1.15	.08			.32	4.04
Saxon‖	Roanoke	1.10					.10	.36					.60	.10			.04											.33	.64	.86		1.85	5.98
Scotland Neck	Tar	T.	.25				.33	.15						T.	.23	.90	.87						.05	.09	.06		.78				.42		4.13
Selma	Neuse	1.60	1.25				.70							.80			.65			T.			.35	.65				.80			.40		7.20
Settle‖	Pedee	.11		T.			.12	.39	T.				.23	.90									.23					5.28	.66	.41			8.33
Sloan	Cape Fear	T.	.13				.08						T.		1.00	2.71								61				.73	.26				5.52
Snow Hill	Neuse	1.03	.22				56	1.07						.10		15	3.70	1.10						23	.10			.89			.70	.02	9.87
Southern Pines	Cape Fear		.50	.42			.25	.10							3.50	1.30	.38	.55						.45				.60	.70				8.75
Southport	do		.51	T.			.57	1.70									.66	.37	T.	T.								.32	1.99				6.12
Statesville	Pedee	.32		T.			T.	.20	T.				1.00			T.												3.02		1.42			5.96
Tarboro‖	Tar		1.00				T.	.64							.05		.38	.30							.40			T.	.97		.33	T.	4.07
Troy	Pedee	.05	.05				.25	.02						.40			.46		.37					36				1.10	.01	.04	.03		3.14
Weldon‖	Roanoke	T.	.11				.16	.60							.06	.01	.20	.13						T.	.45				.90			.40	3.02
Whiteville	Waccamaw				.05		.87	.32								1.87	.21	.10						.13				1.34		.40			5.29
Willard	Cape Fear		.19				.18									1.40	.45	2.76						.60					.63	.07			6.28
Wilmington	do	.01	.01				.47	T.						.08		.18	1.37	.33	.14					.02					.34	.02			2.97
Yanceyville	Roanoke																																
South Carolina.																																	
Aiken	Edisto	.35						.10	.48							1.08						30		.50									2.81
Allendale‖	Savannah								1.45	.64									.15		1.15									.40			3.79
Anderson	do						1.41	.23	.97	.72			.06	.08			.12			.08			.25	.31				.47		.43			5.13
Batesburg‖	Edisto	T.					.69	.23	3.16	.32	.10			.05							T.			.03	.22						.07	.83	5.70
Beaufort	Coast	.29					.28											3.25	1.01					.53			.50						5.86
Bennettsville	Pedee																																
Blackville‖	Edisto							.87	.87					.37			.15			.22			.12	.73			.32	.01	.17	T.			3.83
Blairs‖	Broad						1.74	.60	.46	.56					.66			.04	.02					.46	.40			2.14	.28		1.18		8.54
Bowman	Edisto	.20	.48							.77	.98	1.10	.38				.12	T.						.14									4.17
Calhoun Falls‖	Savannah	.21					.13		1.95	.62	.27				.67																		3.85
Camden (1)	Wateree	.40					1.26		.15	.25				T.	.01	T.	.15						.10	.43	.25		T.	T.	.28		1.14	.64	5.06
Camden (2)‖	do		.08				.08	2.52	.06	.18							.14	.04						.10	.12				.28			.06	3.66
Catawba‖	Catawba						.34	.58	T.	.22					.50			.52						.10				.44	.10		.22		3.02
Chappells‖	Saluda						.60	.24	.38	.42	.16				.16			.04						.34				.52		.50	.28		3.64
Charleston	Coast	.04	.01	.02			.24	1.15	.08	.01						.04	1.53	.07		T.				.23				.05	.70				4.17
Cheraw (1)‖	Pedee						.05	.60		.01	T.				.85		.49							.07	.48				.59	.10		.26	3.50
Cheraw (2)‖	do		T.				.06	.62		.02	T.				1.06		.40							.06	.44			T.	.74	.12		.24	3.76

TABLE 2.—*Daily precipitation for July, 1909. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
South Carolina–Cont'd.																																	
Clarks Hill	Savannah								1.87	1.00	.19				1.87		.75						T.	.10			.10		T.		.63		6.51
Clemson College	...do						.74	.28	.39	.70				.10	.17		.03							.10			.18			.30	1.04		4.03
Columbia	Congaree	.17					1.19	.01	.41	.07					.03	.43	T	.35					.02	.03				T.	.26	.11	T.	T.	3.08
Conway	Waccamaw	.60	.68	T.				.78		T.	T.						2.10	T.	.87						.33		T.		.62	1.10			7.08
Darlington	Pedee	.04	.11					.40		.04						.30	1.50		T.				T.	.23					.25	.04			2.91
Dillon	Little Pedee	.08					.85		.02					.05		.04		.02					.03	.22		.29		.10	.01				1.71
Effingham	Lynches						T.	.75		.20								.75							T.	.40				1.40			3.50
Ferguson	Santee		.50	.10				1.20	.15	.20	.20					.60			.38						.15			1.20					4.68
Florence	Pedee	T.	.60	.23			T.	.58		.04	T.					T.	.49	T.						.05	.28					.12			2.39
Georgetown	Coast	T.	T.				1.81		T.						T.	.14		1.00	.50					T.				.30	1.18				4.93
Greenville	Saluda	T.			.06		.52	.51	1.10	.80	.07				1.89			.28	.25					.62	.45			.15	.14		.77	.25	7.86
Greenwood	...do					.15			2.07	1.27	.85				.04			.70						1.53	.10			1.10			T.	1.04	8.85
Health Springs	Wateree	.40					.57	.01	.09	.03													1.33	.25				.51	.07		.24		3.50
Jacksonboro	Combahee	T.	.60				T.	.88	.26	.17					T.	T.	.26		.95					.02		T.	T.		1.01				4.15
Kingstree (1)	Black	T.	T.	3.20			T.	2.03		.03	.12						.23	.03	.25											.20			6.11
Kingstree (2)	...do			3.10				2.00		T.	T.						.25								T.					.45			5.80
Liberty	Savannah	T.		.35		T.	.45	1.35	.20	.15				.02	1.97		.30						.25	.30			T.	T.	T.	.10	T.	T.	5.44
Little Mountain	Saluda	.46					1.30		.35	.26							.54	.10						.28					.15				3.44
Newberry	...do	.03					1.65	.20	.44	.05				.08		.21	.46						.22	.67			2.24	.02	.08				6.35
Pelzer	...do	T.					.52	.66	3.02	1.04	.14				T.									.02	.02			T.	T.		.02		5.44
Pinopolis	Cooper																																
St. George	Edisto		.60	.70					.80	.30						.90		.90												.70			4.90
St. Matthews	Santee		.44					.15	.11	.24	.05				.08		.10								.48			.10	.08	1.51			3.34
Saluda	Saluda	.02					1.13	.67	1.43	.25	.02				.12	1.75	T.						T.	T.			.82		.41	.06	T.		6.68
Santuc	Broad	T.					2.86	.04	.66	.45				.06	.08		.82	T.	.31				.40	.07			.16	.35	.10		.07		6.43
Smith Mills	Pedee		.21	.11			T.	.67	.14	T.						1.09					..			.11	.08				.16			2.57
Society Hill	...do					T.	.57							.25	.10	1.00	.15						.08	.22				.02	.78		.80	2.79	6.73
Spartanburg	Broad	.05			.03		.19	.07	.30	.60	.12				1.00	.07			.06					.18	.05				.40	.20		.90	T.	4.22
Summerville	Ashley	.01	.79				.05	1.35	.15	.14					.29	.01	.10	.56	.77	.02	.01			.49			.13	T.	2.06	.22				7.15
Trenton	Edisto						.13	.41	.11	.13					.04	.08							.15	.02				1.01		.15	.02		3.25
Trial	Santee	.30	.67				.85		.21	.04					.70	.38		.85	.25	..				.07		T.	.68		.12				5.12
Walhalla	Savannah						.93	.87	.57	.53				.40	.45	.04	.16							.15							.09	.24	4.43
Walterboro	Ashepoo	.26	1.90				.12	1.04	.51	.09					.46	1.08	.05	T.	.27		.67			.61			.12		1.70	.20			9.07
Winnsboro	Broad	.20					3.60	.72	.67	T.				.15		T.	.31	T.					.70	.60				T.					6.95
Winthrop College	Catawba																																
Yemassee	Combahee		.55	.60					2.35	.46						.04	.72	.48	.04	T.	T.				.18		.03		1.23		2.90		9.58
Georgia.																																	
Abbeville	Ocmulgee	T.	.20				.76		.27	.08	.10			**	.46	**	.74		**	.32	.06				.42				.10	.14	.06		3.71
Adairsville	Coosa						.16		**	1.36					.16			.08						.55						.63		2.94
Albany	Flint	.32	1.20	.01	**	.04		**	.43	1.60	.31	T.	.51	**	.01						**	.14	**	.48	.04	.42			**	.98	.02	.12		6.63
Allapaha	Allapaha	.10	.11	.04			.17		.54	.24	.39	.03		**	.49	.20			.33		**	.05		**	.24				**	.38			3.31
Americus	Flint	.10	.70					**	.25	.70	.02		T.	**	.42	1.10	T.				T.			**	.50			**	T.				4.79
Athens	Oconee	.03	.05				.24	**	2.45	1.17	.13			**	.70		**	.70						.11	.18		**	.44	.07	.35	.17	.77	7.56
Atlanta	Chattahoochee	.54	T.			.22		.57	.42	.24					T.		T.						T.	.19			.11	T.		.02	.21	T.	2.52
Augusta	Savannah	.28	T.			.05	T.	.57	.76	.06					.01	.28		.01			.07		.08	.44					.01		.01		2.63
Bainbridge	Flint	.63	1.16	T.			T.	T.	.12	2.35	.06	.18	.04	.04	.89			**	.55		.62	T.	.35	.15	.25						T.	.05	7.44
Barnesville	...do	.26				.87			.52	.36														.56					.83	.14			3.54
Blakely	Chattahoochee	.13					.27		1.05	2.00		.31		1.40	.35	2.10		T.						.03			.53	.30				.81	9.28
Brunswick	Altamaha									1.95								1.50	.50					1.20				1.22					6.37
Butler	Flint	.31	.20			**	.31	**	.97	.69	.30			**	.71	**	.92					**	.21	**	2.62			**	.75				7.99
Camak	Savannah					**	.15	**	1.15	.18	T.			**	2.02	**	.40	**	.12				**	.12	.32		**	.06					4.32
Canton	Coosa						.12	**	.20	1.06					1.06		**	1.26						1.06							.56		5.32
Carlton	Savannah						.14	1.56	.90	.13				**	.46		**	.30					**	.19	.20						.16		4.04
Carrollton	Chattahoochee																																
Clayton	Savannah		.30			T.	.21	.22	.50	.22	.08				.02		1.02						T.	.26			T.	.09	.03	.14	.20		3.29
Columbus	Chattahoochee	**	.03	.04			**	.02	.80	1.28				**	3.62		**	.05	**	.75		.02	1.30	.58	.75					.02			9.26
Covington	Ocmulgee	.55	T.				2.05		.50	.60	.20			**	T.	.50							**	.60	.76					.18	T.	.30	6.24
Cuthbert	Chattahoochee			**	1.00				**	3.00				2.00	.09	.15		**	1.06					.28									7.58
Dahlonega	...do			.15	.10			.35									.10	.02							.75			.95			2.42		4.84
Diamond	Tennessee	.07		.03			T.	2.25	.39	.37				.19	.06								.18	.46			.70	.03		.12	T.		4.85
Douglas	Satilla																																
Dublin	Oconee	.14	.12	.04		**	1.50	**	3.06	1.06	.86			**	1.72					.14				**	.30				**	.26			9.20
Dudley	...do	.09	.02			1.02	2.35	.97	1.12	1.79				.20	.03									.06					1.08		.24	8.97
Eastman	Ocmulgee	T.	.32	T.		**	.45	.09	.90	.89	.38		**	T.	.04	T.	.09	**	T.	.16				**	1.20			**	T.	T.	T.		4.52
Eatonton	Oconee	.06				1.76		.86	1.57									.21					.47				.24						5.92
Elberton	Savannah						.12	.30	.52	1.10	.02			T.	.61		T.	.10					.40	.18			.52			T.			3.87
Experiment	Chattahoochee	.30				.28			.99	.30							T.							.26					.53				2.66
Fitzgerald	Allapaha	.20	.28			.05			.56	.41	.04				.01	.02				.63	1.13	.12	.01	.82					.15			.01	4.44
Forsyth	Ocmulgee	1.12				.50			.47	.38	.22			.88			.40	.02				.27	.55							.15			4.96
Fort Gaines	Chattahoochee	.05							**	3.00	T.	.20	T.	**	1.20			.10			T.	**	.65							**	.35		5.55
Gainesville	...do					**	.05	**	1.05	1.22	.10			**	.22								**	.75							**	.40		3.79
Gillsville	Oconee						T.	.62	.12	.63														.48							.03	.52		2.40
Glennville	Altamaha	.34	.12			.01	T.	.75	T.	.09				.17	.01	T.		.02	1.32	1.02	T.			.81		T.			1.73				6.39
Gore	Coosa					.10		.42	.61	1.04	.05				.10							.05	.02	.32			T.	T.					2.71
Greensboro	Oconee	.39				**	1.62	**	2.08	.74	.18				.08				.42				**	.48	.38					.03	**	.18	6.58
Griffin	Chattahoochee	.19	.22			**	.71	**	.65	.80	.15												.05					T.	**	.52	.20	T.	3.49
Harrison	Ogeechee	.47	.08				.50	2.40	.10	.15							10							.70					.50			.20	5.20
Hartwell	Savannah	.30					1.60	1.40	.55	.64	.02				.36		.47						1.17		.07	.30	.02		.21	.15			7.26
Hawkinsville	Ocmulgee	T.	.10					**	.28	.38	.10			T.	.34						**	T.	**	.84					**	.14	.16		2.34
Helena	...do	.05	.05	.03		.11	.01		.92	1.21	.01		T.	.02	.03	.14				T.	T.		.02				T.	T.				T.	2.60
LaFayette	Tennessee		.01			.27		1.00	.91	.95				.15	.05		T.						.07	.84			.21			.08			4.54
Lisbon	Savannah						.10	.80	.62	.58	.01			1.99			.12				.12		.01	.45			.28	.22	.03	.18	.07		5.58
Lost Mountain	Chattahoochee	.14				.06		.15		.54				.15			.23							.34							.37	.60	2.58
Louisville	Ogeechee	.46				.26		5.05								48								.88					1.25				8.38
Lumber City	Ocmulgee	**	.01	.08	.02	**	.02	T.	1.14	.42	.56		**	.12		**	.02		**	.04				**	.08					**	.28			2.79
Lumkin	Chattahoochee	.09						.15	1.25			.12					1.01	.22	T.		.28	.29	.31					T.		T.			3.72
Macon	Ocmulgee	.11				.32		1.24	.02	.69				.11				T.		.06				.29					1.31	.02	.36	.01	4.54
Marshallville	Flint	T.	T.				T.		.78	.58	.16		T.		.10					T.		T.		T.	.16					T.	.87	T.	2.65
Mauzy	Suwannee	.17	.07					.11	.13	1.15	.08	.04	.02	2.71	.03			.51		.06				.45					.02	.21		.04	5.80
Milledgeville	Oconee	T.				**	1.52	**	.79	.40	.55			**	.09								.08	**	.11					.01		**	1.38	4.93
Millen	Ogeechee	.10	.73			**	.10	**	1.00							**	.74							**	.86					**	.95			4.48
Montezuma	Flint	**	.32				**	.16	.18	1.96	.20			.04	.12				**	.18		**	.04	**	.08						.02			3.30
Monticello	Ocmulgee	.20	.15			**	.07		1.36	.51	.10								**	.95			**	.15			**	.03	**	1.14	**	1.01	5.67
Morgan	Flint	.23	T.					.15	2.73	.03	T.	.25		.72	.03	1.00				.34			.68	.55				.70		.02		.15	7.57
Newman	Chattahoochee	.22						**	.03	.90					.05							**	.31	.04	.59	**	.90		**	.54		3.58
Oakdale	...do	**	.10			.45	.30	**	.74	.64	.06						**	.08						.16							**	.35	2.88
Point Peter	Savannah	.48						1.35		1.20			90			50							.70	.24									5.37
Poulan	Suwanee	.28	.22		.05			.62	.08	.63		.10	1.20		.07					.92				.47				.69		1.67	.66		7.66
Putnam	Flint	1.60					.12		1.60	.80				.63	T.				.45				2.25						.50		.40	8.35
Quitman	Suwanee	.65	5.55			**	.10			.56	1.35		**	.82	.40	.25				**	1.25	**	.19						**	T.		**	11.12
Ramsey	Coosa							1.21	.52	.21				.07	.02		T.						.08	.55									2.66
Resaca	...do				**	T.		.56	1.10																				**		.66		2.32
Rome	...do	**	T.			**	.60	**	.80	1.86	.10			**	.04		**	T.				**	.04	.80			**	.48		**	1.88	.62	7.22
St. George	St. Marys																																
St. Marys	...do	.14						.69	.14	.17	T.			.11	.14		T.	.58	.82					.19	.72	T.		1.53	T.		T.		5.23

TABLE 2.—*Daily precipitation for July, 1909. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Georgia—Cont'd.																																	
Savannah	Savannah		19	.05	T.		.01	.08	.14	3.85	.23				T.	.02	T.		.39	.04				.11			.01	T.	1.31				6.43
Statesboro	Ogeechee		.44	.21					1.08	.08	T.				T.	.03			1.40					.33		.06	2.08		.25			T.	5.96
Talbotton	Chattahoochee																																
Tallapoosa‖	Coosa	.05						**	1.00	1.45				2.30	2.15								.80	.10						.72	.11	8.68
Thomasville	Ocklockonee	.56	.28		.41		T.		1.05	.72	.08	.06	.03	.06	.07			T.		.28	T.	.78		.10				.27	.01	1.69		.02	6.47
Toccoa‖	Savannah						.26		.31	.63	.15				.55									.50				.20			.31		3.94
Valdosta‖	Suwanee	.20	T.					**	.40	T.	.80	T.							**	.30	.40	.75					**	.30	.20		.11		3.35
Valona	Ogeechee	.20						1.33	.06	T.					T.		T.	T.	.40					.32			.97				T.		3.28
Washington‖	Savannah	.22	T.				.72	**	1.10	.58	.52			**	.32			T.	.86		1.11		**	1.22	1.32		**	.22		T.	.26		8.45
Waycross‖	Satilla	.01	.15	.38				**	2.34	**	1.53		**	.01	.48	.41	.01	**	.07	.11	.02	.16		**	.08			**		.15	.98			6.89
Waynesboro‖	Savannah	1.00	.50				.02	**	2.10	.10						**	1.66		2.10					T.	.40		**	1.10		.10			9.08
West Point‖	Chattahoochee	.06	T.	T.					.38	.70				**	.22		**	.08	T.	.04	**	.20	T.	.42	.54					.80	.30	.06	3.80
Woodbury‖	Flint	**	.37					**	.62	.75				**	.19			**	.36				**	.50	.27				**	2.12			5.18
Florida.																																	
Apalachicola	Coast	6.37	1.56				.16			.53	.08	.96	.32	.26	.02	.82				1.35	.92	.15	.30	.02	.15				.09	.15	.10	.35	14.66
Arcadia	Peace Creek		.05	1.60	1.74	.11		T.		.22	.57	.69	.29	.32		1.56				.03		.02	.02		.42	T.	.32	1.11	.20	.01	.06		9.34
Archer‖	Waccasassa	2.00	3.40	.50					.40	.35	3.00			3.45		.10				10	2.05		.55		.25				.20	.90		.50	.30	18.05
Avon Park	Kissimmee	.50	4.70	2.61	.21					.32	.50	.10	1.23		1.04	.10		.04	.20		.14		T.	.27	.32			.21	.32	.12	.02			12.95
Bartow	Peace Creek	1.12	2.40	3.65	.70				.16	.02	.05	.99	.18		.07	.25	.05		.03				36	.02		.23		.82	1.81	.40			13.13
Blountstown	Apalachicola			.42						2.05			.64	3.96	.38					1.40		.62		1.05									10.52
Bonifay	Choctawhatchee	.56		.10		.15	.10	.10		1.37		T.	T.	1.10		.46		T.		68		31	T.	1.25				.42		.25			6.85
Brooksville	Withlacoochee	1.30	4.00	5.20					1.88	1.80	.19		.31	.23	.75			1.12		.53	.92		.12		.60				.74	.10		.10	19.89
Carrabelle	Coast	5.26	2.14							1.92	1.96		.24	.88		1.10														1.10	2.05		16.65
Cedar Keys	do	.68	7.50	1.40					6.97				1.67	1.60	.55	.04	T.						92	T.		67	.40		2.29	.88	T.		25.57
Clermont	Lake	1.00	6.25	1.40					1.31	.10	1.40	.10	.10	.20	.20	.50					1.40	.67	1.46		.20					.28	.44		17.01
De Funiak Springs	Choctawhatchee	.30	.83	T.			.25			T.	.38	.06	1.67	.78	.10			.55		.12	T.	.06		.50			.62			.61	.12		6.95
De Land	St. Johns	.04	4.03	7.22	T.		.09		.70	.35	.63		2.10	1.32	.05	T.				.54	.02					1.45		.29	.10	T.	.01		18.94
Eustis‖	Lake	.32	**	1177					.36	2.04	.15		.06	.58	.10	.37			.19		.04	.27				T.	.58		3.07		.10		20.00
Federal Point	St. Johns	.36	.31	.06	.82	.04			1.55	.70	.50	.03	.42	.15	.20					.03								.14		.10	.14	.25	.95	.05	.01	6.81
Fenholloway	Fenholloway																																
Fernandina	Coast	.08	.33	.02					1.03	.06	.10	T.		1.11				T.		62		T.		.06	.47	.23	.02					.02	.70	4.85
Flamingo	do																																
Fort Meade	Peace Creek	.76	2.70	3.43					T.	T.	1.27	.01	1.94	.20	.24	.82		T.	.15		T.	.35		.45	.04	.12	.03	.75	.47	.87	.08		14.68
Fort Myers	Caloosahatchee	.43	.50	.13	.10	T.	T.		.25	.60	T.	1.00	T.	T.	.65	.06	T.	.05	.07	T.	T.		T.	.32	T.	T.	1.40	T.	.20		T.	5.76
Fort Pierce	Indian	.67	.24	.94	T.				26	4.50	.51		.59	.12	.14	.23								.83	.12				34	T.			9.49
Gainesville‖	Lake	.14	1.77	5.71		.20			.75	.21	.18	.61	T.	.80	.85	T.			1.10	.11	.48	T.	T.	.19	.45			.83	.21	.78	.05	.99	16.41
Grasmere	do	.37	3.80	5.87					.22	.77	.10		.27	.52	.03	.35	T.		T.		.02	.43			.12	1.38	.33	1.05	.79	.09		16.51
Hilliard	Nassau				1.42				2.76	3.15	.56			.09	.25				.51		.16			.39	.05		.06	.35	.63	.02		10.40
Huntington	St. Johns																																
Hypoluxo	Lake	.72	.12	.50	.30			.40		1.95	.37	1.36	.28	.78	.02				.06	.08					1.37	.08	.78	.14					9.31
Inverness‖	Withlacoochee	1.45	8.40	.82				.35	2.00	1.78	.68		2.45	.91	.40	.20	.70	.53	.08			.50			.04		.28	.09	.79			12	22.57
Jacksonville	St. Johns	.10	.28			.35		73	2.06	1.77	.67		.03	.37	.01	.29		.22	.31	.24	T.	.02		.16	.08	.12		T.	.05	.57		T.	8.43
Jasper	Suwanee	.01	2.05	.45	.05			.02	.02	.75	.02		2.00								.06								.05				5.48
Johnstown	do	.56	1.56	.16	.28				.56	.02	.98		.30	1.98	.28					.54	.40			.15	.32			56	1.25	.14			10.04
Jupiter	Coast	.53	.37	.61		.01			.52	.54	.28	.29	.03	.02	.78	.06			.01			.03			1.08	.45	.02	.02		.96			6.61
Key West	do	T.				T.							.04	.18	.07		.01	.25	.12				.27			.27	T.	T.			T.		1.21
Kissimmee	Kissimmee	.70	1.96	1.62	.13				.45	.44	2.35		.10	.28	.87	.10				.17	.45				.10	.27		T.	.10	.98	.13	.08	11.28
Lake City‖	Suwanee	.16	1.90	4.13	.31	.33			.30		2.30	.06		1.24	.47	.21	.03	.78				.82	.06		.36	.20				.07	.90	.42	15.05
Live Oak	do																																
Macclenny	St. Marys																																
Madison‖	Suwanee	.59	4.15	.35	.59		1.46	.72			2.20	.45	.13	3.30	.73	.64		T.	1.25	T.	.02	.28	.09		.53	.24			.11		.11	.10	18.04
Malabar	Indian	.75	2.25	1.13					.11	.71	.03		.60	.71	T.										.31			.17	.01	.04	.52		7.34
Manatee	Manatee	.25	4.25	1.42					.19	.05	1.32	.15		T.	.06	.09	.41		.58	T.	.37	.09	.32	.03		.64	.05	.70	.03	1.13		.27	12.40
Marianna‖	Apalachicola			.26			1.58			.21	.51	.36	.49		2.32		1.69	.28	.22		.22		.42	.68				.05		.14		9.21
Merritts Island	Indian	.31	1.60	1.30					1.15	.28	.01		1.17	.11	.90										.52	T.		.08	.97	.10			8.50
Miami	Coast	T.	T.	.35	1.33					.20		T.	1.20	T.			T.	.40				T		T.	.90		T.					4.38
Middleburg	St. Johns	.30	.35	.37		1.07	.05		1.05	1.05	.10		25	1.25	.25					1.00	1.30				.22			.62	.71	.23			10.17
Molino	Escambia	.47	.65							.18			T.	.24	1.45			.89	.35					.33			1.65	.10		T.		7.31
Monticello	Aucilla																																
Mt. Pleasant	Apalachicola	.15	.05	.65		.25	.38	.30	.23	1.30	.20	.10	.40	.48				T.	.10	.90			1.85	.25						.06	.26	2.10	10.01
Newport	St. Marks	.20	T.				1.20	T.	.40	1.90	1.20	T.	.40	.20						T.	T.	T.		T.	.75			T.	T.	T.			6.25
New Smyrna	Coast	.24	8.80	.30				14	.67	.73	.03		.16	2.25	.29					.06	.13					.55	T.	.14	.68	.06	.09		15.32
Ocala‖	St. Johns	.10	**	3.75	.40		.41		1.23	.53		.17	T.	1.05	.03						.15	.12	T.	.65		T.	T.	.16	.04	.62	.97	.24	10.62
Orange City	do	.30	7.82	3.56					.69	.50	.29		1.21	1.02	.14					1.00	.03					.61	.15	.21	.52	.11	.09		18.25
Orlando	do	.61	2.95	4.10	.09				.25	.40	.38		1.43		.25	.66					T.	T.				T.		.15	.98	.46		T.	12.71
Pensacola	Coast	T.	1.48	1.29				T.		.59		.03	T.	.10	.24				T.	T.			T.	.18	T.			.61	T.	T.	.02		4.54
Plant City	Hillsboro	.12	.60	2.70					.22		.27			.17			.20					.70						2.00	.11				7.09
Rockledge	Indian	.70		.59					.29	.64	.39		.14	.04	T.				T.							.37				.06	.40		3.62
Rockwell	Withlacoochee	.30	12.00	3.55					.35	.30	.20		1.38	2.50					**	1.68	.89	1.08		.27			T.		.60	.90			26.00
St. Andrew	Coast	1.44	.17				.07			.60	.30		.36	.03	.20	.04				.96	.02			.38	.03				.35	.07	.02	2.66	7.70
St. Augustine	do	.26	1.40	.25	.49	T.			1.03	.55	2.80		T.	.28					T.	.15				.65				T.	.13	.05			8.04
Sand Key	do	T.	T.	T.									T.	1.75			T.	.13	.65	T.	T.	.06					T.	.06					2.65
St. Leo	Withlacoochee	.45	3.91	2.89	.78				1.13	.90	.93		.63	T.	.09	.07	.09	.85	.29			.01	.20		T.		.02	.26	.57	.07		.03	14.17
Satsuma Heights	St. Johns	.39	2.27	.91	T.	T.			1.10	.72	.46		.47	.02	T.	T		26	.20	.06					10	13	1.55	.05	21	.10			9.05
Switzerland	do	.10	.98		T.			1.30	.20	1.60		.15		.20	1.70	.09		.41	.43	.03	.23		1.08	T.	.18			.11	.20	.05		9.04
Tallahassee‖	Ocklockonee	.25	.40	.05	.02			.02	.25	.35	2.20	.35	.20	.02	.30				.15	.03	.02		.03	.50				.01					5.15
Tampa	Coast	1.14	2.63	1.63					.35	.23	.02	.16	.86		.03	.03		1.10	.52	.46	.57	T.				T.	.08	.62	.04	T.			1.047
Tarpon Springs	do	.81	4.65	1.15					2.44	.19	.05	.28	.26	.45	.01	.09		.04	1.24	.25		.64	.81		.09		83	1.31	.70	.46	.28		17.03
Titusville‖	Indian	.75	5.55	.20	.02				.27	.14	.19		.47		.06						T.				**	.21		**	.39				8.25
Wausau	Choctawhatchee			.15				.14	2.00			.15	.30	.15	T.	.13				.84		1.12	.40	.62									6.00
Alabama.																																	
Alaga‖	Chattahoochee	.06	T.	.08		T.		.66	.23	2.34	T.	.08	T.		.84		1.66		T.	.04	1.08		.06	.08	.66				.56	.24	.06		8.73
Anniston	Coosa	.08				T.		.74	.79	.14			T.	1.44			.01	.10				T.		.78					.43	.15	.01		4.65
Ashville	do	T.						.30	.80	.16	.05				.25									.13					.30	.35	.59		3.08
Auburn	Tallapoosa	.03	.09				.03		.60	.60	.01	T.		.16	.05		.02	T.	.20		1.06	1.26		.42				.05			.43		5.01
Benton‖	Alabama									.82		T.	T.	1.00											.32				.05	.76			2.95
Bermuda	Escambia		.47				.03			.28	.73	.05	.01	.98	1.65		.21		.13	.27				.29			T.	T.	.17	1.35	.03		7.05
Birmingham	Black Warrior	T.						.06	.39	T.	T.	T.	.46	1.98	T.		.46							1.30					.14	.14			4.93
Boligee	Tombigbee	.15	.05				.25	T.	.08	.60			.02												T.				T.	1.45	T.		2.60
Calera‖	Coosa								2.68						.45									.50									3.63
Camp Hill	Tallapoosa	T.					.13	T.	.28	.20	T.			.67	.50		.31	T.						.50					.75	.33	.15		3.82
Cedar Bluff‖	Coosa							.70	1.00	.50												.50	.30						1.50				4.50
Citronelle	Alabama	T.	.06				.90	.27			.01	.05	T.					T.	.01	.03				.03			T.		.37	.38	.31		2.42
Clanton‖	Coosa	.04	.03					.03		1.33	.02	.08			.38			.60		.03	.24			.03	.34					1.20	.16		6.51
Cordova	Black Warrior					.02			.78	.34				.70			.12			T.	T.			1.32					.16	.22			3.66
Cullman	do	T.				.04		.16	.48	T.	.01			.04	.05									.07					.60	.57	.05		2.07
Dadeville‖	Tallapoosa		.10					T.	.46	T.					1.05			.25	.08	.14			.35	.20	.25					.35	.40		3.63
Daphne	Coast	T.	.25	.38	.27	.92	T.	T.		.03	1.32	T.			.42	.23		.04	.60	.29				.45	T.			2.00	.80		.79		8.79
Demopolis‖	Tombigbee									.34	.04								.04	.96										.18			1.56
Double Springs‖	Black Warrior																																
Eufaula‖	Chattahoochee	.10	.20	.01			T.	T.		3.28	.10	.03	.12		2.71			.21		.03			.11	.65	.16					.75			8.46
Evergreen‖	Escambia			.16				.46			.79	.06	.04		2.00	1.60		.28		.08	.16	T.		.63						.50			6.76
Fayette	Tombigbee					.66			.17	1.15					.85		.79			T.					1.04					.25			4.91
Flomaton	Escambia			.40			.40						.70						.10	.70				.20					.40	.40	.05	.05	3.47
Fort Deposit‖	do				.40				.10		.10	.02			.18					1.46					.97					3.50			6.03

TABLE 2.—*Daily precipitation for July, 1909. District No. 2*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alabama—Cont'd.																																	
Gadsden‖	Coosa								1.98		.04				.86									.28							.40	1.38	4.94
Goodwater‖	do		.15						.25	.85	T.		T.		T.			.70	T.				.58	.52	.42					.58	.10	4.15
Greensboro‖	Black Warrior							.38		2.31		T.						.31													.07	3.07
Greenville‖	Escambia			.69						.40		.30			1.32										1.69					.53		.79	5.72
Hamilton	Tombigbee	.70							T.						2.70			.70		.70											.49	.20	5.56
Highland Home	Escambia	.06	.10			.11	.10	T.			.01	T.	.01	1.11				.01	.37	.36				.20					T.	.40	1.10	T.	3.94
Livingston‖	Tombigbee									.35										.34	.71										.05	4.90	6.35
Lock No 4‖	Coosa	.24							.60	.15				.18	.12		.15	.26						.33						1.20	.25	.26	3.74
Lucy	Chattahoochee	.03	T.	T.	.53		.23	.08		.77	.59	.14	.06	.77	.14	.12	.01			T.		.04	.90	.46					T.	1.19			6.06
Maple Grove	Coosa	T.						.64	.81	T.	T.		.24	1.54								.06	.15					T		.23	1.45	.70	5.82
Mentone‖	do																																
Milstead‖	Tallapoosa		.30					.06	.04	1.76			.06		1.03				.42				.10		.20							3.97
Mobile	Coast	1.00	.33	1.69			.10			1.09	T.	.01	.04		.48	T.	T.	T.	1.18	.57				1.34	.03			.19	T.	.22	.01		8.28
Montgomery	Alabama	T.					.01		.38	.10	T.	T.	T.	.55			1.58	T.	.02	T.				.05				.05		.48	.78	.21	4.21
Newbern	Black Warrior						T.		.45	.52			.05	.16				T.	.80					T.						.46	.90	T.	3.34
Oneonta	do						.12	.83	.54	.10				.04	.27							.17		.10						.23	.85	1.60	4.85
Opelika‖	Tallapoosa	.12	T.	.06			.13		.20	.70	T.				.30							.24	T.		.55					T.	.15		2.45
Ozark‖	Coast	.20		1.65		.16			.30	.20		.20	.07		1.62									.20	.70								5.30
Prattville	Alabama	.11					T.		T.	.60	T.	T.		.10			.32		.07					T.				T.	T.	T.	1.15	2.35
Pushmataha	Tombigbee	.06		.01				.11		T.	.04			.10					.73	.36					.06					.96		2.43
Selma‖	Alabama						T.	T.		.30	.02	.04		.28	.02			1.30		.94					T.				T.	.50	.24	3.64
Spring Hill	Coast																																
Talladega	Coosa								.60		T.			.04										.03						.08	T.	.04	0.79
Tallassee‖	Tallapoosa	.06					T.	.19	.96		T.	T.	T.	1.19			.04		.27			.36							.27	T.	.36		3.70
Thomasville‖	Tombigbee		.55	.11			T.	T.			.18			1.69	.20	.02		1.50		.32		T.			.98					1.23		6.78
Troy	Escambia	.10	.87				.05		.15			.09	.05	.20	.42				.42	.11				.35					.36	1.35		.04	4.56
Tuscaloosa‖	Black Warrior							.07		.86	T.				.25			.58				.02		.23	.07						T.	.01	2.09
Tuskegee	Tallapoosa	T.	T.				T.	.18	.15	.89	.02		T.	.66			T.	T.	1.45		T.	.03	.14	.08						.40		.60	4.60
Union Springs‖	do	.10	.60	.20				T.	.05	1.21	.06	T.	T.		1.35			.86	.06	.10			.20	T.	.20				T.	.30	.70		5.99
Uniontown	Black Warrior							T.		.96				.12	.03				.69											T.		.61	2.41
Valley Head	Coosa							1.35	1.68					.60								1.60		.30							2.30	7.83
Vienna‖	Tombigbee																																
Wetumpka‖	Coosa							.50		.71					.60			.60												.28			2.69
Mississippi.																																	
Aberdeen‖	Tombigbee	.22						.42		2.32					1.56		T.				.03			.31								1.73	6.59
Agricultural College	do	.11						.12	.12	.70					.87	T.				T.				.30					T.	.30	.85	3.25
Bay St. Louis	Coast	.87	.19		.05	.15	.26			.01	.34	.11			2.45	.16		.65	.05		.52	.33			.03			T.		3.43	.58	10.18
Biloxi	do	1.51	.29	.35			.08	.06		.05	.13				.06			.20		.02	1.97	.18						1.02	.18		T.	.11	6.21
Booneville	Tombigbee	T.						.09	.57	.60		.04		.03	.10	.03	.03						.28								.90	.10	2.77
Brookhaven‖	Pearl	.01	.33	.56			T.	T.			.46	.05				.01	1.39	.01	.21			.12			1.43				T.	T.	1.90	.09	6.57
Columbia‖	do	.66	.04				.26	.56			.48	.10						.76	.04	.16		.30			.78				.64		1.96	.54	7.28
Columbus‖	Tombigbee	.30	T.					T.		1.10			T.		.10		T.					T.		.04					T.		T.	.06	1.60
Crystal Springs‖	Pearl	.60	.11	.12				.22									1.26	.30	.12	.03		.05			.15				.09			1.71	4.76
Edinburg	do	.06					.14			.03						.02		.29						T.						.15		1.77	2.46
Enterprise‖	Chickasawhay	.26	.18									.90				.14		.30	.10						.06						.23	.16	2.33
Fulton	Tombigbee	.90	.16					.14		.82					1.72						.34			.20								1.54	5.82
Hattiesburg‖	Leaf																																
Haziehurst‖	Pearl	.79	.02	.27			.01	.06		T.	.26						.74	.04	2.05						15						.41	.17	4.97
Jackson	do	.06	.05				T.			.35						.27		.24	.14	T.	.11			T.						T.	.19	.16	1.57
Lake‖	do	1.05	.43								.20		.10				1.45		.05	.20					.10				.11		.03	.04	3.76
Lake Como	Leaf	.26								.71						.25	.10	.25						.50						.65	.80		3.52
Laurel	do	.66	.17			T.	.18			.12					.01			2.39			T.			.66	.28			T.			3.42	.44	8.33
Leakesville‖	Chickasawhay	.12	1.07	.26				.27	.32					.65	.08	.21					1.40				.39				.73		.80	.21	6.51
Louisville	Pearl									.30						.30								.15								1.59	2.34
Macon‖	Tombigbee	.50								.40							T.								.12						.37	T.	1.39
McNeill	Pearl	2.25	.25				.08			.01	.21				.92	.32	.03		.47	.11	.75	.10		.03						.10	2.01	T.	7.64
Magnolia	do	.71	.57	.10		.21		.05		.93	.03					.93	.26	.50	T.	.11				.47				T.	.30	1.55	.46		7.18
Meridian	Chickasawhay	1.02	.01				T.			.01			T.		T.		.18	T.	.04					T.						.34	.49	.37	2.46
Merrill‖	Pascagoula		1.42	.04			T.	.94			.40	.62	T.			.88		.06		.26					.24						.80	.08	5.74
Monticello	Pearl	.20	1.02	.02			1.32	.02								.45	.63	.15	.15		.12			1.28	.01					3.50			8.87
Okolona‖	Tombigbee	.13						.55		2.70					1.70									1.10								.30	6.48
Pascagoula	Mississippi Sound	.47	1.75						.55	.01	.23				.44	.33		.53	.15	.05	.82							.18	3.30				8.81
Pearlington	Pearl	.15	2.35	.36		T.	.18			.06	1.77	T.			.06	.43	.51	.22	T.		.77				.53		.04				.32	.22	8.22
Porterville	Tombigbee	.18					T.			.01			.05		T.		T.	.03	T.		T.									.55	1.82		2.64
Shubuta‖	Chickasawhay		.08	.16			.06				.38					.26		.24		.26					.28					.06	1.98		3.76
Waynesboro‖	do	T.	.70	.70				.20			.90			.48		T.		.64		.28					.75				T.		2.50	T.	7.15
Woodland	Tombigbee								.18	.58	1.38			1.22									.19								.23	.98	4.76
Louisiana.																																	
Pearl River	Pearl	.20	.08	.04		.18	.12	T.			.22	1.58	T.			.80	.90	.06		.06	.02	.62			.01			.06	.02	T.	.54	.02	5.53

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‖ ‖ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 2, South Atlantic and east Gulf States.*

Date.	Virginia.								North Carolina.																		Charleston, S. C.	
	Lynchburg.		Norfolk.		Richmond.		Saxe.		Charlotte.		Eagletown.		Fayetteville.		Hatteras.		Newbern.‡‡		Raleigh.		Reidsville.		Salisbury.		Wilmington.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	92	68	88	72	92	70	90	70	86	72	87	72	91	72	85	75	89	70	85	73	89	68	89	70	87	77	86	78
2...	91	69	90	74	90	72	93	67	90	72	88	71	95	69	86	76	90	70	90	67	92	66	94	72	88	75	84	76
3...	89	69	92	74	92	70	95	68	92	73	90	75	96	71	86	72	91	69	93	73	93	72	94	72	86	73	94	75
4...	76	58	74	66	74	59	85	58	78	64	79	63	81	62	75	68	81	65	76	63	77	59	83	60	81	67	85	77
5...	76	58	78	62	79	61	80	55	83	63	77	57	87	54	82	65	82	57	79	61	80	54	83	56	79	62	84	77
6...	69	61	73	64	70	62	69	53	80	68	72	65	80	67	78	71	78	62	76	67	76	65	80	71	79	69	86	72
7...	79	65	75	66	80	64	78	65	73	67	78	66	78	67	78	68	82	65	73	65	79	57	76	67	82	71	90	76
8...	81	58	82	62	84	63	83	56	77	65	80	59	84	62	78	66	80	58	80	60	81	56	81	64	78	63	78	72
9...	81	58	80	62	85	63	85	55	77	63	83	60	83	64	80	67	83	58	82	62	83	61	80	63	79	66	79	73
10...	83	56	77	65	84	65	83	55	84	68	82	61	89	59	80	71	86	60	84	61	86	55	88	63	81	65	80	69
11...	85	62	78	66	85	63	86	58	85	65	84	59	91	64	80	71	87	61	88	64	87	58	92	60	85	65	82	70
12...	90	65	89	70	91	66	92	63	88	68	90	59	94	62	85	72	92	59	91	66	91	59	94	74	90	67	87	72
13...	88	73	92	75	93	76	92	72	89	71	90	74	91	70	84	76	92	66	90	71	84	69	88	69	88	72	88	76
14...	91	69	88	70	92	71	92	69	90	71	90	72	94	69	85	75	92	71	90	69	91	67	95	70	90	74	89	77
15...	92	68	92	74	93	71	94	66	89	73	93	73	92	72	86	77	93	73	85	69	92	65	97	72	89	72	89	78
16...	85	69	90	70	90	72	91	68	89	72	90	71	94	69	85	70	91	70	92	70	89	72	93	72	82	71	89	80
17...	86	65	89	69	91	70	88	68	88	68	88	70	92	70	83	71	91	67	89	69	90	68	94	67	88	70	91	71
18...	86	61	88	70	89	69	89	58	87	68	88	65	90	69	82	74	90	68	88	70	88	63	92	67	87	71	90	76
19...	77	60	78	66	79	61	81	59	82	67	79	62	84	64	80	67	82	68	80	67	81	63	87	67	81	68	88	74
20...	80	53	78	65	80	61	81	50	83	61	80	56	86	57	84	66	85	55	82	60	82	56	85	54	84	63	82	74
21...	86	54	86	62	87	63	88	49	84	61	86	65	89	55	84	64	86	56	84	61	86	50	88	55	82	63	83	72
22...	90	62	80	68	84	69	92	62	88	66	86	66	88	67	82	73	87	62	88	68	93	60	91	62	81	69	86	73
23...	86	70	85	71	85	69	86	70	83	70	85	73	85	69	82	73	90	65	82	67	90	69	89	62	84	74	85	73
24...	81	62	82	67	85	68	87	64	83	65	85	65	87	68	80	70	87	68	83	65	91	63	90	62	87	72	89	73
25...	86	58	82	68	89	63	90	49	86	65	87	57	88	61	86	69	86	60	86	64	88	51	90	59	85	67	84	74
26...	86	59	86	68	88	65	90	53	86	65	87	63	90	61	85	71	89	63	84	63	88	54	84	68	83	69	84	76
27...	76	67	81	70	79	69	79	68	81	68	77	66	80	67	79	73	80	66	72	67	80	67	90	64	85	71	88	79
28...	87	65	85	66	88	68	89	60	88	67	85	65	90	68	82	69	85	67	86	65	90	65	95	67	84	71	89	70
29...	93	68	90	70	93	69	93	65	91	68	89	69	93	67	82	74	91	67	89	68	93	64	92	69	85	69	85	70
30...	92	71	93	74	95	74	95	70	88	69	93	74	96	70	83	74	93	69	92	72	92	70	93	69	88	73	87	75
31...	93	72	94	72	96	73	94	71	88	69	92	73	94	70	83	74	95	73	92	71	93	70	93	61	89	77	87	77
Mns	84.9	63.6	84.4	68.3	86.5	67.1	87.4	61.7	85.0	67.5	85.2	66.0	88.8	65.7	82.3	71.0	87.3	64.8	84.9	66.4	86.9	62.5	89.0	65.4	84.5	69.6	86.1	74.4

Date.	South Carolina.														Georgia.											
	Columbia.		Conway.‡‡		Georgetown.		Greenville.‡‡		Newberry.		Society Hill.		Trial.		Adairsville.‡‡		Albany.‡‡		Atlanta.		Augusta.		Dahlonega.		Macon.		Savannah.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1...	86	72	.....	.....	88	77	84	73	93	70	88	73	87	70	89	72	85	73	81	71	88	73	83	69	82	73	85	74
2...	90	72	.....	.....	88	75	88	73	92	93	89	72	84	71	92	70	89	74	91	72	90	74	94	69	91	73	84	75
3...	96	71	.....	.....	88	74	92	72	98	71	91	70	92	72	94	68	95	74	92	73	96	73	90	70	97	73	93	73
4...	84	72	.....	.....	83	66	82	68	87	72	80	59	85	71	87	70	95	75	90	73	88	76	88	70	92	76	87	76
5...	86	66	.....	.....	83	74	80	65	89	65	83	69	86	64	86	62	93	77	83	71	86	70	83	66	91	75	82	75
6...	88	70	.....	.....	83	71	82	67	90	71	80	71	88	68	92	71	90	76	88	72	92	73	88	69	92	75	92	77
7...	88	72	.....	.....	86	74	82	72	90	73	80	69	88	71	94	74	93	76	90	70	93	74	85	63	93	71	96	75
8...	82	65	.....	.....	81	69	68	63	73	66	80	67	80	68	72	67	85	73	71	63	75	64	82	68	75	70	75	70
9...	86	93	.....	.....	79	65	66	60	72	63	72	63	74	66	83	67	82	72	68	62	76	65	86	68	73	69	79	70
10...	82	64	.....	.....	82	67	77	62	82	63	83	65	82	63	84	64	80	72	80	64	83	68	84	67	83	68	79	70
11...	87	64	.....	.....	85	69	81	63	89	63	85	68	87	63	86	64	81	69	84	66	85	65	81	63	85	68	83	68
12...	89	69	.....	.....	89	71	86	66	92	66	89	72	90	64	89	69	87	72	86	71	89	69	79	60	86	70	86	73
13...	92	71	.....	.....	90	73	86	67	94	70	91	72	93	68	92	71	89	75	88	73	91	72	82	61	91	74	88	74
14...	93	74	.....	.....	90	77	85	68	95	72	90	72	88	70	90	67	89	73	86	70	91	75	85	64	91	73	92	73
15...	86	72	.....	.....	90	78	87	68	91	74	83	72	89	72	95	64	92	75	92	70	86	74	88	71	91	74	91	75
16...	90	72	.....	.....	92	78	86	71	93	70	87	70	92	71	90	71	91	74	88	72	91	72	90	70	89	72	91	77
17...	89	74	.....	.....	94	72	84	69	91	70	89	72	90	72	90	69	95	74	85	70	91	76	94	72	92	73	94	76
18...	91	72	.....	.....	90	71	84	67	92	69	88	70	88	68	90	64	94	74	87	69	90	74	97	70	91	74	94	72
19...	87	70	.....	.....	87	68	83	67	88	66	82	62	88	69	88	64	98	73	89	69	92	72	94	68	94	71	93	71
20...	86	67	.....	.....	83	64	79	61	87	65	82	58	86	69	87	61	93	71	85	67	85	67	95	69	86	72	83	74
21...	88	64	.....	.....	84	69	83	63	90	62	82	63	86	61	89	64	88	73	86	69	87	67	93	67	87	72	84	73
22...	89	68	.....	.....	86	74	85	65	92	69	87	68	86	63	93	71	88	72	89	70	89	68	91	69	87	70	88	71
23...	84	73	.....	.....	89	72	87	68	85	71	84	66	83	73	85	69	87	72	82	68	84	71	88	67	87	71	89	72
24...	87	66	.....	.....	88	72	81	64	88	64	84	65	88	67	84	59	89	71	81	64	88	66	85	65	87	66	89	71
25...	88	65	.....	.....	89	70	82	66	87	64	85	65	89	65	84	58	91	65	85	64	89	66	82	64	90	64	85	73
26...	88	68	.....	.....	85	74	83	66	88	68	86	72	86	67	84	62	93	66	83	69	87	70	83	65	90	69	84	74
27...	89	72	.....	.....	87	75	82	67	89	68	86	71	88	69	88	68	87	72	85	69	90	72	80	62	86	68	89	76
28...	88	71	.....	.....	89	68	85	69	89	70	86	67	87	70	90	68	94	71	88	71	91	73	78	60	94	70	88	67
29...	89	68	.....	.....	88	73	88	69	92	68	87	71	88	67	94	68	92	71	92	69	89	69	84	69	87	70	87	67
30...	92	72	.....	.....	90	76	86	71	95	71	92	70	91	70	89	66	92	72	87	68	91	72	92	58	90	70	91	72
31...	94	70	.....	.....	90	76	85	70	94	71	92	71	92	23	.....	68	93	73	86	68	93	71	90	67	91	71	91	72
Mns	87.5	69.3	.....	.....	87.0	72.0	82.9	67.1	89.2	68.3	85.3	68.2	87.1	68.2	88.0*	66.6	90.0	72.6	85.4	68.9	88.3	70.7	86.9	66.5	84.4	71.1	87.5	72.8

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 2*—Continued.

Date.	Georgia.						Alabama.														Florida.					
	Thomasville.		Waycross.§§		West Point.§§		Anniston.		Bermuda.		Birmingham.		Eufaula.§§		Mobile.		Montgomery.		Tuscaloosa.§§		Uniontown.		Avon Park.		Fort Myers.		Gainesville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	81	73	85	77	88	72	85	73	92	72	88	73	83	72	94	74	88	74	94	73	93	73	89	71	82	70	82	72
2...	88	74	90	73	92	73	92	70	90	79	92	73	89	72	92	74	94	76	96	74	96	74	78	70	83	71	79	73
3...	95	75	98	74	100	72	95	69	95	74	94	72	94	71	95	73	96	75	99	73	100	75	77	71	80	72	90	72
4...	95	73	99	74	99	73	89	66	97	73	92	74	95	72	98	78	96	77	96	75	97	74	89	72	82	74	92	76
5...	93	76	94	76	95	72	92	66	93	75	90	70	91	75	88	80	94	76	97	71	94	74	93	72	87	74	92	72
6...	91	73	94	74	94	74	92	76	92	74	90	74	90	74	88	77	90	74	96	72	92	74	93	74	89	74	88	73
7...	92	75	98	75	98	75	93	70	93	76	91	73	92	74	94	78	93	76	98	76	94	76	95	74	89	76	94	69
8...	90	74	87	71	87	72	82	69	95	73	90	73	92	73	93	77	95	73	98	76	95	77	92	75	87	76	85	72
9...	87	72	83	72	75	71	74	68	89	75	84	71	81	71	91	74	85	71	89	71	90	73	93	77	88	75	87	74
10...	79	72	83	72	81	78	82	68	82	73	82	69	78	69	90	77	81	70	87	72	85	73	87	76	85	76	86	75
11...	79	72	89	67	82	70	83	71	85	74	81	74	76	70	88	76	78	72	86	74	84	73	85	73	88	74	88	74
12...	84	74	91	71	86	72	88	72	94	72	88	73	85	70	91	77	90	74	93	72	.....	.....	89	74	85	73	80	74
13...	88	72	95	71	93	74	88	67	88	72	92	70	87	71	94	78	88	74	98	74	94	73	88	72	86	74	83	73
14...	84	71	89	73	95	66	87	69	94	69	87	68	88	70	93	76	92	70	93	69	95	68	94	70	88	74	88	72
15...	92	74	93	73	96	70	90	67	93	69	91	69	89	71	92	73	94	74	96	69	95	72	91	72	88	73	92	73
16...	92	72	94	73	90	72	87	72	92	72	93	70	88	71	87	77	91	70	95	74	95	73	94	72	89	73	93	74
17...	93	72	96	74	93	70	88	68	92	70	89	69	89	61	88	77	91	70	95	70	92	70	94	75	92	73	94	74
18...	95	72	96	74	89	73	88	66	93	72	88	68	84	70	92	71	90	73	93	70	91	71	93	74	90	70	93	72
19...	92	72	94	73	95	69	90	63	91	69	90	65	88	70	92	72	92	70	93	67	91	69	91	74	88	75	91	71
20...	92	69	92	70	91	70	86	64	90	70	89	69	88	68	89	74	91	73	95	70	90	72	94	77	91	75	92	71
21...	86	73	89	72	85	72	88	73	92	71	90	73	87	69	90	79	94	73	95	74	92	72	89	73	90	73	88	72
22...	88	70	92	64	92	70	92	69	93	73	90	73	84	69	91	76	93	72	96	74	94	73	89	72	89	73	87	68
23...	90	69	92	70	88	73	84	65	85	72	84	68	81	70	88	73	87	74	88	74	92	76	91	69	89	74	90	67
24...	91	70	93	72	85	68	83	59	86	66	85	62	85	66	89	74	86	68	88	64	90	64	89	70	87	74	85	72
25...	90	66	97	74	87	60	84	55	88	63	86	61	85	63	90	68	86	65	88	64	90	65	90	72	84	72	91	72
26...	92	65	93	71	89	64	87	63	88	64	86	64	83	62	87	73	88	66	92	63	88	63	91	70	90	72	90	69
27...	90	70	95	69	89	67	86	68	85	67	86	71	84	63	84	76	87	71	91	70	93	67	91	73	87	70	91	72
28...	90	70	93	70	93	70	91	68	90	69	90	72	89	67	88	75	93	72	96	73	97	71	90	73	83	72	89	72
29...	88	69	91	67	89	69	92	71	91	69	89	73	87	70	91	72	94	71	98	74	96	73	95	72	91	70	85	69
30...	89	69	91	70	85	67	86	69	86	66	82	69	87	68	88	71	82	69	89	70	86	69	93	70	89	71	86	69
31...	89	72	91	72	91	70	86	69	88	71	87	72	89	69	86	75	89	70	89	74	93	69	93	71	90	72	86	71
Mns	89.2	71.5	92.2	71.9	90.1	70.6	87.4	67.8	90.4	71.1	88.2	70.2	86.7	69.4	90.4	75.0	89.9	72.0	93.5	71.5	92.5[a]	71.5[a]	90.3	72.6	87.3	73.1	88.3	71.9

Date.	Florida.																Mississippi.							
	Jacksonville.		Jupiter.		Key West.		Miami.		Orlando.		Pensacola.		Tallahassee.§§		Tampa.		Columbus.§§		Hattiesburg.§§		Jackson.		Meridian.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	83	74	86	72	88	77	91	71	82	73	91	76	78	73	79	69	95	72	94	72	94	74	92	72
2	80	74	84	72	88	78	89	70	79	70	86	73	87	74	79	71	96	74	93	72	92	75	90	72
3	94	75	80	70	86	79	84	72	82	72	88	73	92	73	79	71	99	74	91	70	96	75	95	74
4	94	77	90	75	87	79	87	72	91	72	90	79	93	75	86	76	96	73	92	71	96	74	94	73
5	88	76	87	75	89	79	91	74	93	72	87	82	88	77	87	76	94	69	94	70	97	77	94	74
6	91	76	86	77	89	79	90	77	92	74	85	81	95	76	91	75	96	74	93	73	94	75	90	76
7	93	72	90	76	86	78	90	73	94	74	89	80	89	75	89	77	95	76	94	72	92	75	91	75
8	84	71	92	75	86	80	90	76	90	74	90	80	90	76	82	76	95	76	96	70	95	75	91	75
9	84	74	87	74	85	81	88	75	85	73	88	72	86	73	84	75	93	72	97	75	94	76	91	75
10	81	73	88	75	85	80	91	75	87	75	85	76	81	73	86	75	85	73	94	73	91	73	86	74
11	87	74	86	74	86	80	90	73	85	74	84	76	78	73	84	74	89	73	92	74	94	76	88	74
12	87	75	84	72	90	77	86	70	85	73	89	77	86	73	86	76	93	73	96	73	94	74	92	74
13	86	74	90	72	90	76	90	72	88	72	89	74	82	76	88	76	96	74	97	74	95	75	92	74
14	89	75	86	75	88	75	90	72	92	74	90	75	83	72	88	78	95	71	98	76	98	76	93	72
15	91	75	86	77	87	77	89	73	91	73	85	74	87	74	89	76	95	70	97	74	97	75	94	72
16	91	76	86	81	90	78	91	79	93	76	85	78	90	73	89	76	95	72	96	73	96	71	94	69
17	94	76	86	78	87	74	90	76	93	77	86	78	87	74	92	72	94	71	96	70	93	72	89	72
18	93	71	86	76	84	74	87	75	93	75	88	77	90	73	92	72	94	68	93	71	94	72	91	71
19	89	72	86	77	88	81	91	80	93	73	87	75	90	72	90	72	95	65	91	69	92	70	90	68
20	89	73	87	77	88	81	90	80	90	73	84	75	89	70	93	69	95	68	94	68	92	72	90	71
21	85	75	88	77	89	79	89	77	87	73	87	80	87	72	91	74	95	72	97	70	93	73	92	71
22	88	72	85	75	87	76	89	74	88	68	87	80	86	70	90	72	96	72	99	72	94	69	91	71
23	89	74	86	72	88	77	94	73	94	65	90	74	88	71	88	72	89	76	88	71	92	75	88	72
24	85	72	89	70	90	77	95	72	90	73	89	74	87	70	86	78	90	61	91	68	88	63	85	63
25	87	76	87	74	90	74	86	72	90	74	87	73	88	69	87	75	91	64	92	62	90	64	87	61
26	92	72	87	73	88	76	90	73	93	70	86	75	91	68	90	73	90	61	96	66	94	64	89	62
27	88	75	86	76	89	77	90	72	92	73	83	73	86	70	89	69	92	61	92	68	96	72	90	70
28	87	72	86	77	90	77	89	78	92	71	86	77	84	71	86	71	97	71	93	74	97	73	93	72
29	88	70	87	71	90	80	89	74	88	71	86	73	84	70	89	71	98	74	99	73	99	72	94	69
30	86	72	87	70	90	79	90	74	91	71	85	71	85	70	88	71	89	71	83	68	88	70	79	68
31	85	73	86	73	90	79	91	74	92	72	85	75	85	72	89	75	90	71	92	62	84	70	88	70
Means	88.0	73.7	86.7	74.5	88.0	77.9	89.6	74.1	89.5	72.6	87.0	76.0	86.8	72.5	87.3	73.6	93.6	70.7	93.9	70.8	93.6	72.5	90.4	71.2

Climatological Data for July, 1909.

DISTRICT No. 3, OHIO VALLEY.

FERDINAND J. WALZ, District Editor.

TEMPERATURE.

With the exception of a small area bordering the extreme southwest, the temperature over the entire district was below normal. Beginning in the southwest, this deficiency,as a rule, gradually increased toward the north and northeast, until, in the northern portion of Indiana, the average temperature of the month was 4° to 5° below normal July conditions; in the western parts of Pennsylvania and New York it was 3° to 4° below normal. There were also considerable areas in central Kentucky, central and western Ohio, and portions of the Apalachian section where the average temperature was from 3° to 4° below normal conditions.

The first two days of the month were quite warm generally, but an area of high pressure from the northwest, moving eastward to the middle Atlantic states, caused a decided cool wave over the entire district during the four or five days succeeding. On the morning of the 4th, some unusually low temperatures were registered. Another cool wave overspread the district from the 18th to 21st, during which time the temperature was again quite low. The minimum for the month was registered at a great many places on the 20th. On this date, the following unusually low temperatures were reported: In North Carolina, 38°; Virginia, 36°; Tennessee, 40°; Kentucky, 42°, and West Virginia, 36°.

Light frost was reported in the bottom lands of Harrison Co., Ohio, the mornings of the 4th and 19th, and in West Virginia, in one or two counties, the mornings of the 8th, 19th and 20th; while in the mountain districts of Pennsylvania, the temperature came dangerously near the frost line on several mornings. From the 24th to the 28th, another cool area overspread this district, but the temperature was not so abnormally low as in the preceding cool period. During the last three or four days of the month there was a decided warming up, when temperatures generally became either normal, or rose above.

PRECIPITATION.

The rainfall over the districts as a whole was decidedly variable. In the main it was ample and mostly above normal. It appears that to the southward and eastward of the district the rainfall was below normal to a marked extent; but beginning almost at the boundary of the district, the amounts became normal, and increased, as a rule, toward the Ohio River. In the Tennessee River Basin of the Gulf States and of Tennessee, the rainfall averaged between 4 and 6 inches. But in the Cumberland drainage area of central Tennessee the monthly amount was below 3 inches, while in the western part of the same State, from 10 to 12 inches, the greatest amount in the whole district was reported. Nearly as large amounts fell over the drainage basin of the Great Kanawha in West Virginia, also over a comparatively small area in Indiana lying immediately north of Louisville and comprising the headwaters of the east fork of White River. The next amounts of special importance were in the east-central portions of Illinois, where between 8 and 9.5 inches occurred. Over central Kentucky, the southern portions of Indiana, along northern Kentucky, and extending eastward to central West Virginia, the amounts ranged from 6 to 8 inches. Over the greater portions of Ohio, western Pennsylvania, and southwestern New York the rainfall for the month was below normal, the amounts decreasing gradually in a northeasterly direction, until, in the extreme northeastern part of the district, the deficiency in rainfall was so marked as to cause injury more or less serious. Over the drainage area of the Allegheny River and the lower portion of the Monongahela the rainfall ranged between 1.25 and 3 inches. Like amounts occurred over a considerable part of northern Indiana and Ohio. In Pennsylvania nearly all the rain occurred in the last half of the month. In West Virginia, Kentucky, Tennessee, and the southern portions of Indiana and Illinois the showers were very frequent throughout the month and there were numerous heavy rainfalls of a more or less general nature. Over a considerable portion of the sections last named the rainfall was the heaviest for any July, with a few exceptions, during the past two decades.

In Kentucky there were numerous severe thunderstorms in all parts of the State, and damage by floods, wind squalls and lightning was considerable. There were also a number of deaths from lightning and several destructive hailstorms, the latter being confined to small areas. Thunderstorms were particularly numerous during the first half of the month. Thunderstorms seemed to have been more numerous and pronounced in Kentucky than in any other part of the district. The Ohio River seemingly marked the main track of these disturbances.

In Illinois there were several violent and destructive thunderstorms on the 13th and 15th. In the afternoon of the 11th a storm of great violence, with reported tornadic characteristics, passed over Vermilion County, Illinois, and was very destructive from the wind and rain. In Indiana local thunderstorms, attended by hail, high winds, and excessive rainfall occurred on the 12th, 13th, 29th, and 30th. Also there were several fatalities from lightning and a number of barns burned. In Ohio, particularly in the southern part, there were a number of severe thunderstorms attended by hail and wind squalls. A number of buildings were struck by lightning and burned. The most pronounced storms, and those doing the greatest damage, occurred in Butler and Green counties, Ohio, the afternoon of the 13th, when, besides unroofing buildings, leveling barns, and delaying traffic, there were several persons killed. There was also much damage from thunderstorms over the middle portions of Ohio on the 29th. Heavy and damaging thunderstorms occurred in the eastern portion of the Monongahela Basin the night of the 29–30th. Hailstorms occurred in Indiana on the 12th, 13th, 16th, 30th, and 31st, being more numerous than in any other State of the district.

TABLE 1.—*Climatological data for July, 1909. District No. 3, Ohio Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
New York.																				
Allegany	Cattaraugus	1,441	3	65.4	.....	88	15	37	5†	45	3.62	.....	0.87	0.0	14	16	11	4	nw.	Charles E. Whitney.
Bolivar	Allegany	1,800	13	65.2	− 1.4	90	11	34	5	49	1.38	− 4.81	0.57	0.0	8	11	9	11	w.	Lowell Andrus.
Franklinville	Cattaraugus	1,598	12	64.7	− 3.3	86	12†	37	20	42	2.69	− 2.37	0.82	0.0	11	14	8	9	s.	John W. Kales.
Jamestown	Chautauqua	1,365	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Olean	Cattaraugus	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.72	.....	1.12	0.0	8	21	5	5	se.	John W. Alles.
Maryland.																				
Deer Park	Garrett	2,457	15	69.8	+ 3.0	94	14	32	20	52	4.27	− 0.79	1.00	0.0	8	.....	.....	.....	.....	S. P. Specht.
Grantsville	....do	2,351	15	64.8	− 3.5	81	11	42	20	38	1.25	− 3.66	0.80	0.0	4	10	12	9	.....	J. S. Miller.
Oakland	....do	2,461	9	64.5	.....	86	1	33	20	43	3.06	− 1.65	0.88	0.0	12	8	19	4	w.	R. E. Weber.
Pennsylvania.																				
Aleppo	Greene	1,135	8	69.2	.....	91	1	41	4†	42	4.50	− 0.66	0.94	0.0	9	18	6	7	nw.	J. S. Hinerman.
Baldwin	Butler	1,404	3	67.9	.....	86	2†	44	4†	35	2.79	.....	0.80	0.0	10	17	12	2	w.	S. H. Templeton.
California	Washington	770	6	71.6[e]	.....	93[e]	1	46[e]	4	37[e]	.....	.....	.....	.....	.....	.....	.....	.....	sw.	Prof. E. H. Knabenshue.
Claysville	....do	1,127	5	70.0	.....	94	1	40	19†	43	3.43	.....	0.85	0.0	11	15	15	1	w.	E. T. Buchanan.
Derry Station	Westmoreland	1,172	12	70.5	− 3.4	93	1†	41	6	45	2.50	− 2.76	1.40	0.0	8	20	1	10	w.	D. M. Wineman.
Franklin	Venango	955	35	67.2	− 4.2	87	10†	40	5	41	3.35	− 1.40	1.85	0.0	5	14	12	5	e.	Venango Water Co.
Freeport	Armstrong	772	31	.....	.....	.....	.....	.....	.....	.....	2.82	− 1.69	1.30	0.0	.....	.....	.....	.....	.....	Mrs. A. R. Burtner.
Greensburg	Westmoreland	1,100	1	70.0	.....	89	1	43	4	35	3.06	.....	1.26	0.0	10	18	8	5	sw.	M. W. Crownover.
Greenville	Mercer	950	13	68.9	− 1.6	90	22†	41	4	43	1.18	− 3.96	0.31	0.0	7	27	4	0	n.	A. M. Orr.
Grove City	....do	1,250	2	67.6	.....	88	29	41	5	36	2.68	.....	0.82	0.0	8	12	13	6	s.	H. W. Harmon.
Indiana	Indiana	1,350	12	69.2	− 1.3	91	10	42	5	40	3.41	− 1.33	1.70	0.0	9	12	14	5	w.	Rev. J. M. Welch.
Irwin	Westmoreland	884	12	70.6	− 2.4	90	1†	44	5	41	1.68	− 3.05	0.68	0.0	10	8	20	3	.....	J. B. Gallagher.
Johnstown	Cambria	1,184	21	.....	.....	.....	.....	.....	.....	.....	3.1*0*	− 1.57	1.65	0.0	14	.....	.....	.....	.....	E. C. Lorentz.
Lycippus	Westmoreland	1,420	17	70.2	− 2.5	89	10	45	4	32	3.5*0*	− 1.64	1.62	0.0	9	.....	.....	.....	.....	Murray Forbes.
Pittsburg	Allegheny	842	39	71.2	− 3.4	88	1	50	4	28	1.2	− 3.20	0.48	0.0	9	9	16	6	nw.	U. S. Weather Bureau.
Saegerstown	Crawford	1,116	18	66.7	− 2.6	87	12	39	5	42	2.64	− 2.16	0.65	0.0	8	10	13	8	w.	J. G. Apple.
St. Marys	Elk	1,740	11	67.8	− 1.4	87	13†	42	5	33	.05	− 2.06	1.70	0.0	6	16	14	1	.....	Wm. E. Wittman.
Skidmore	Lawrence	1,000	5	67.7	.....	89	1	41	20	38	1.95	.....	0.60	0.0	6	22	3	6	nw.	W. H. Stoner.
Somerset	Somerset	2,250	53	67.4	− 1.2	88	10†	41	5†	43	2.44	− 2.47	1.20	0.0	7	8	20	3	nw.	W. M. Schrock.
Uniontown	Fayette	999	21	70.6	− 2.5	90	1†	47	19†	33	4.03	− 1.64	0.89	0.0	12	1	25	5	sw.	Wm. Hunt.
Warren	Warren	1,137	20	65.8	− 3.9	86	11	39	5	39	2.78	− 2.61	1.86	0.0	7	23	1	7	e.	Anna Simpson.
West Virginia.																				
Aborvale	Pocahontas	.....	1	64.0	.....	85	29†	37	20	39	3.70	.....	1.72	0.0	13	13	14	4	nw.	W. E. Arbogast.
Bancroft	Putnam	.....	5	72.8	.....	93	29	50	4†	31	5.21	.....	1.68	0.0	13	14	10	7	sw.	James Hill.
Beckley	Raleigh	2,440	10	67.9	− 4.3	90	1	43	19†	36	10.50	+ 7.92	2.30	0.0	12	14	10	7	w.	John A. Ewart.
Ben's Run	Pleasants	622	6	71.9	.....	91	1	49	4†	31	3.40	.....	0.80	0.0	9	23	7	1	.....	J. D. Riggs.
Bluefield	Mercer	2,563	12	68.8	− 3.0	86	1	48	25	31	4.44	− 0.17	1.40	0.0	15	19	9	3	.....	Agent, N. & W. Ry. Co.
Buckhannon	Upshur	1,472	13	69.4	− 3.3	89	1	43	20	36	4.51	− 0.99	1.00	0.0	12	19	7	5	.....	H. A. Darnall.
Cairo	Ritchie	667	7	72.2	.....	93	2	46	20	36	5.61	.....	1.57	0.0	11	4	20	7	s.	Van A. Zevely.
Central Station[b]	Doddridge	900	9	69.1	− 4.6	90	30	41	19†	39	3.07	− 1.17	0.69	0.0	11	9	15	5	sw.	G. W. Sherwood.
Charleston	Kanawha	598	6	74.1	.....	90	1†	52	4	36	5.60	+ 1.78	1.62	0.0	11	22	5	4	w.	R. C. Hewes.
Creston	Wirt	612	7	73.2	.....	93	29	48	20	37	4.91	.....	1.57	0.0	9	13	12	6	w.	J. M. Reed.
Cuba	Jackson	544	7	70.2	.....	90	1	39	19	36	4.80	.....	1.56	0.0	12	11	17	3	w.	C. T. Perry.
Doane	Wayne	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. W. Jude.
Elkhorn	McDowel	1,933	14	69.4	− 3.0	87	1†	45	20	34	7.89	+ 2.77	2.04	0.0	10	7	22	2	sw.	J. J. Lincoln.
Elkins	Randolph	1,940	10	67.8	− 2.7	86	1	44	20	37	4.85	+ 0.21	1.79	0.0	14	10	13	8	w.	U. S. Weather Bureau.
Fairmont	Marion	879	4	71.4	.....	94	1	42	4	42	3.30	− 1.63	0.63	0.0	10	.....	.....	.....	.....	H. Glenn Fleming.
Glenville	Gilmer	738	14	72.8	− 1.4	93	1†	46	4	38	4.31	− 1.01	1.10	0.0	10	12	4	15	sw.	John Holt.
Grafton	Taylor	985	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. W. Wilson.
Green Sulphur Springs	Summers	1,600	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gwinn.
Hinton[c]	....do	1,400	13	71.6	− 3.0	89	31	52	20	30	5.54	+ 2.04	2.00	0.0	13	18	0	10	w.	R. R. Flanagan.
Huntington	Cabell	510	12	74.4	− 2.6	94	12†	51	4	33	4.58	+ 0.20	1.64	0.0	12	12	10	9	w.	L. H. Hutchinson.
Lewisburg	Greenbrier	2,200	8	69.0	.....	91	31	42	20	37	2.73	− 1.21	1.26	0.0	8	18	9	4	w.	Geo. T. Argabrite.
Logan	Logan	665	7	73.0	.....	94	31	50	4	34	7.81	.....	4.26	0.0	13	2	26	3	w.	H. C. Ragland.
Lost Creek	Harrison	1,033	11	70.0	− 2.8	90	29	43	4	38	5.52	+ 0.43	1.20	0.0	8	17	10	4	w.	Allen Smith.
Madison	Boone	704	4	72.6	.....	92	11	49	3	34	6.38	.....	1.20	0.0	15	15	12	4	.....	S. E. Bradley.
Mannington	Marion	967	6	70.1	.....	92	30	43	4†	43	3.12	.....	0.95	0.0	10	16	11	4	sw.	Jas. A. Morgan.
Morgantown	Monongalia	1,250	13	70.5	− 3.3	92	29	46	4†	31	3.11	− 2.18	0.94	0.0	10	16	8	7	s.	Horace Atwood.
Marlinton	Pocahontas	2,169	10	64.8	− 5.2	81	29	44	4†	28	.....	.....	.....	.....	.....	18	6	7	.....	N. C. McNeil.
Moundsville	Marshall	640	6	72.8	.....	93	1	42	20	40	3.16	.....	1.16	0.0	10	23	3	5	sw.	J. E. Matthews.
New Cumberland	Hancock	987	9	68.8	.....	90	1	45	19†	35	4.04	.....	1.48	0.0	11	12	12	7	.....	Frank S. Evans.
New Martinsville	Wetzel	634	14	73.1	− 2.5	93	1	48	4†	39	4.05	− 1.08	1.22	0.0	10	24	4	3	sw.	Wm. Ankron.
Nuttallburg	Fayette	2,252	12	66.4	− 6.4	88	29	44	5†	30	8.12	+ 4.12	2.16	0.0	15	11	11	9	.....	Stephen Tully.
Parkersburg	Wood	638	21	72.4	− 3.2	90	30	51	20	32	4.78	+ 0.12	1.57	0.0	14	16	8	7	s.	U. S. Weather Bureau.
Parsons	Tucker	1,662	7	67.3	.....	87	11†	41	20	41	5.88	+ 1.47	1.57	0.0	10	14	10	7	.....	J. W. Swisher.
Philippi	Barbour	1,192	10	69.0	− 3.6	90	28	40	20	41	3.89	− 1.48	0.67	0.0	14	10	15	6	w.	J. D. Dadisman.
Pickens	Randolph	2,785	16	65.8	− 3.5	87	1†	42	19†	36	6.01	− 0.29	1.90	0.0	9	19	9	3	w.	Dr. J. L. Cunningham.
Pineville	Wyoming	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. M. Senter.
Point Pleasant	Mason	553	14	72.0	− 4.8	92	29	50	4†	34	3.87	− 0.08	1.24	0.0	12	8	3	20	sw.	E. H. Armstrong.
Powellton[a]	Fayette	904	13	72.5	− 0.8	92	1	48	20	35	4.59	+ 0.29	0.91	0.0	14	1	6	23	n.	D. Swain.
Princeton	Mercer	2,469	6	64.5	.....	80	12	44	20	29	5.80	.....	2.00	0.0	10	11	16	4	w.	H. Scott.
Robertsburg	Putnam	.....	.....	71.8	.....	92	29	48	20	35	2.57	.....	0.95	0.0	11	12	11	8	sw.	E. P. Turley.
Ryan	Roane	693	5	70.4	.....	91	1	43	4†	36	4.74	.....	0.83	0.0	12	11	12	8	.....	Wm. E. Ryan.
Smithfield	Wetzel	.....	5	69.0	.....	87	30	44	20	34	2.57	.....	0.60	0.0	10	22	0	9	sw.	H. F. Whisler.
Spencer	Roane	710	6	69.5	.....	90	1†	42	20	43	4.69	+ 0.36	0.96	0.0	10	0	29	2	.....	A. M. McKown.
Sutton	Braxton	.....	4	74.0	.....	96	2	46	4	40	2.96	.....	0.80	0.0	9	16	3	12	.....	J. E. Baughman.
Terra Alta[a]	Preston	3,207	8	66.2	.....	88	15	40	19†	34	3.50	− 3.29	1.51	0.0	7	10	13	7	sw.	C. F. Dodge.
Union	Monroe	.....	6	68.2	.....	91	1	40	20	40	5.73	.....	1.91	0.0	12	.....	.....	.....	.....	Shelton Clarke.
Valley Fork	Clay	.....	6	72.0	.....	92	31	44	6	44	3.59	.....	2.45	0.0	3	16	13	2	.....	Miss Blanche Pierson.
Webster Springs	Webster	1,500	6	70.4	.....	89	1†	47	4	35	2.33	.....	0.40	0.0	9	8	18	5	s.	D. H. Hamrick.
Wellsburg	Brooke	1,225	8	68.9	.....	86	1†	48	4	28	3.01	− 1.61	0.64	0.0	12	10	15	6	sw.	C. P. Waugh.
Weston[b]	Lewis	824	14	68.9	− 7.0	94	29	44	20	42	2.54	− 2.66	0.80	0.0	12	9	15	5	sw.	C. M. Davis.
Wheeling	Ohio	645	25	71.8	.....	96	1	43	4	42	3.58	− 1.14	1.40	0.0	11	23	5	3	s.	Miss M. B. Forsyth.
Williamson	Mingo	660	7	74.6	.....	93	1†	50	19	31	7.31	.....	3.58	0.0	12	14	12	5	e.	J. F. Keyser.
Ohio.																				
Amesville	Athens	630	6	73.2	.....	95	14	45	4	39	5.78	.....	1.90	0.0	14	16	11	4	sw.	F. W. Gibson.
Bangorville	Richland	1,380	23	69.8	− 2.7	91	29	45	4	31	2.81	− 1.43	1.17	0.0	8	7	22	2	sw.	S. M. Painter.
Bellefontaine	Logan	1,276	16	69.0	− 4.7	91	30	46	19	32	5.97	+ 1.99	2.64	0.0	9	12	13	6	s.	C. L. Lane.
Bladensburg	Knox	1,100	13	67.5	− 4.6	88	30	41	24	40	3.25	− 1.54	1.16	0.0	7	13	17	1	w.	Miss M. A. Elliott.
Cadiz	Harrison	1,245	6	71.0	.....	92	1	45	4	34	4.69	− 1.94	1.61	0.0	14	12	12	7	sw.	H. B. McConnell.
California	Hamilton	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.52	.....	1.18	0.0	11	12	11	8	s.	J. W. Ellms.
Cambridge	Guernsey	803	17	69.4	− 3.2	89	30	44	20	36	4.05	− 0.83	0.78	0.0	9	9	20	2	.....	Samuel Mehaffey.
Camp Dennison	Hamilton	570	17	72.8	− 3.8	94	29†	50	4†	32	4.24	+ 0.69	0.80	0.0	13	15	10	6	sw.	H. F. Pinkvoss.
Canal Dover	Tuscarawas	884	16	69.6	− 3.4	90	1†	44	19†	40	4.41	− 0.26	1.24	0.0	9	8	22	1	sw.	Ed. S. Slingluff.
Canton	Stark	1,065	27	69.2	− 3.0	87	1	47	4†	30	4.23	− 0.58	1.75	0.0	11	17	4	10	n.	Prof. C. F. Stokey.
Cardington	Morrow	.....	.....	70.0	− 2.0	88	15†	48	4†	42	2.59	− 1.70	1.23	0.0	5	15	13	3	sw.	R. A. Beatty.
Chillicothe	Ross	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.07	.....	2.13	0.0	9	17	1	13	.....	Owen L. Brown.

TABLE 1.—*Climatological data for July, 1909. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Cont'd.																			
Cincinnati	Hamilton	628	39	74.0	− 3.7	94	29	56	24	23	3.83	+ 0.29	1.17	0.0	12	8	14	9	se.	U. S. Weather Bureau.
Circleville	Pickaway	694	15	72.6	− 2.9	93	1	51	20	33	4.51	+ 0.95	1.50	0.0	12	8	2	11	sw.	Samuel W. Courtright.
Clarington	Monroe	600	7	70.6	.....	90	1†	45	4†	38	3.80	− 1.63	1.39	0.0	11	7	12	12	sw.	Col. S. Tschappat.
Clarkesville	Clinton	1,010	23	72.4	− 2.5	91	30	51	4	29	3.87	+ 0.74	0.83	0.0	11	18	2	11	w.	E. T. M. Williams.
Columbus (1)	Franklin	918	32	72.0	− 3.3	91	29	54	4	24	3.34	− 0.31	1.14	0.0	14	11	10	10	sw.	U. S. Weather Bureau.
Columbus (2)	....do	757	27	70.8	− 2.7	91	29	49	4†	31	4.42	+ 1.24	1.09	0.0	14	8	12	11	sw.	Ohio State University.
Columbus (3)	....do	.....	1	72.8	.....	90	30	53	20	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Paul Mason.
Columbus Reservoir	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.91	.....	1.25	0.0	8	7	7	17	sw.	Superintendent.
Coshocton	Coshocton	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.15	.....	1.31	0.0	6	.....	.....	.....	.....	Mrs. Ada Jeffries.
Dayton (1)	Montgomery	790	27	72.2	− 4.0	94	29†	50	4	31	4.84	+ 1.63	1.24	0.0	12	14	12	5	sw.	Edith E. L. Boyer.
Dayton (2)	....do	.....	16	.....	.....	.....	.....	.....	.....	.....	4.51	+ 1.26	1.20	0.0	10	.....	.....	.....	.....	Mrs. D. D. Rist.
Delaware	Delaware	927	13	70.2	− 4.1	91	29	46	19†	37	3.14	− 1.13	1.01	0.0	11	15	2	14	sw.	L. L. Hudson.
Demos	Belmont	1,325	20	70.4	− 2.5	92	1	47	4	35	3.02	− 1.60	1.19	0.0	9	19	10	2	s.	J. F. Dysart.
Frankfort	Ross	750	17	72.4	− 2.1	92	28	50	4†	31	3.08	− 0.05	1.00	0.0	8	19	2	10	sw.	O. A. Cory.
Garrettsville	Portage	1,005	25	67.1	− 2.7	89	12	40	5	41	3.09	− 0.69	0.95	0.0	9	12	16	3	nw.	S. M. Luther.
Granville	Licking	960	25	71.3	− 2.0	92	1†	46	20	35	3.17	− 0.68	0.92	0.0	7	16	0	15	e.	Dr. L. E. Davis.
Gratiot	....do	1,000	19	69.6	− 3.2	88	30	46	5†	33	3.54	− 1.22	1.14	0.0	9	13	15	3	sw.	W. B. Longstreth.
Green	Adams	500	17	73.4	− 2.3	94	31	50	4†	38	3.12	− 1.36	1.77	0.0	8	18	10	3	w.	W. F. Kenyon.
Green Hill	Columbiana	1,135	18	66.8	− 3.9	87	1	41	20	40	3.62	− 0.78	1.46	0.0	10	15	13	3	sw.	Jos. E. Bentley.
Greenville	Darke	1,060	24	71.2	− 1.8	91	2	52	4†	29	4.99	+ 2.19	1.20	0.0	12	16	5	10	11	G. A. Katzenberger.
Hillsboro	Highland	.....	2	70.5	.....	88	1†	51	19	24	5.78	.....	1.12	0.0	13	10	14	7	sw.	Carey H. Roush.
Ironton	Lawrence	575	27	74.1	− 0.3	95	29	50	4†	33	3.27	− 0.89	1.80	0.0	9	23	3	5	sw.	James Bull.
Jacksonburg	Butler	975	22	72.0	− 4.4	96	29	52	4	28	5.33	+ 2.54	1.03	0.0	12	14	5	12	ne.	Dr. J. B. Owsley.
Kenton	Hardin	.....	7	70.2	.....	90	29	47	19	37	1.95	.....	0.95	0.0	6	19	8	4	s.	N. S. Martin.
Killbuck	Holmes	1,087	17	69.0	− 3.8	89	22	47	20	36	3.19	− 1.39	1.40	0.0	6	12	15	4	nw.	Geo W. Nowells.
Lancaster	Fairfield	898	14	70.8	− 3.4	90	30	49	4	28	4.26	+ 0.19	0.97	0.0	13	19	4	8	sw.	R. L. Renshaw.
Lawshe	Adams	900	6	72.4	.....	93	29	47	4	35	4.93	.....	2.02	0.0	11	17	6	8	w.	Ruth W. Hoffman.
McConnelsville	Morgan	710	26	71.0	− 1.7	92	29	47	4	32	2.43	− 1.92	0.64	0.0	8	11	14	6	s.	C. H. Morris.
Marietta	Washington	627	66	73.9	+ 0.1	95	1	50	4†	35	3.50	− 1.13	1.19	0.0	9	15	8	8	n.	Prof. T. D. Biscoe.
Marion	Marion	980	19	72.2	− 1.8	93	9	47	19	41	3.62	− 0.30	1.12	0.0	10	10	20	1	sw.	E. H. Raffensperger.
Milfordton	Knox	1,200	17	69.8	− 2.6	91	30	47	19	32	3.61	− 0.53	1.50	0.0	8	23	7	1	sw.	L. H. Burgess.
Milligan	Perry	875	16	70.8	− 3.0	91	29	42	20	38	3.48	− 0.54	1.00	0.0	9	11	14	6	s.	V. C. Eyeland.
Millport	Columbiana	1,145	18	67.9	− 3.8	88	1	43	4	38	3.36	− 0.92	0.90	0.0	9	7	22	2	sw.	G. F. Copeland.
Nellie	Coshocton	850	9	68.9	.....	90	30	42	23	38	2.43	− 2.49	1.30	0.0	6	20	9	2	s.	E. L. Gamertsfelder.
New Alexandria	Jefferson	1,050	25	68.8	− 4.4	97	30	49	8	46	2.83	− 1.95	0.80	0.0	5	19	9	3	w.	Mrs. Mary K. Pennell.
New Berlin	Stark	1,100	17	68.9	− 3.8	90	12	42	4	33	3.33	− 1.24	1.50	0.0	9	23	5	3	n.	Clayton Holl.
New Richmond	Clermont	788	11	72.9	− 3.7	92	1†	53	4†	30	4.75	+ 1.46	1.22	0.0	12	12	10	9	sw.	.....
New Waterford	Columbiana	1,053	16	68.6	− 3.4	89	28	40	23	41	2.86	− 1.74	1.33	0.0	6	22	5	4	sw.	Sam. C. Scott.
North Lewisburg	Champaign	1,095	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Orangeville	Trumbull	945	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. B. Wade.
Pataskala	Licking	1,050	17	70.3	− 3.6	90	1	7	4	32	4.43	+ 0.32	0.79	0.0	14	7	19	5	w.	J. N. Ridenour.
Philo (1)	Muskingum	1,018	15	70.6	− 4.7	92	29	49	4†	29	3.35	− 1.29	0.68	0.0	11	14	12	5	nw.	L. C. Burckhalter.
Philo (2)	....do	.....	6	71.8	.....	93	30	47	4†	38	3.25	.....	0.88	0.0	10	12	16	3	sw.	Louis Hardtla.
Plattsburg	Clark	1,130	17	69.4	− 4.5	90	30	48	7†	31	5.43	+ 1.16	0.95	0.0	13	12	17	2	w.	F. E. Stewart.
Pomeroy	Meigs	781	26	72.8	− 3.7	92	30	51	20†	31	4.02	+ 0.13	1.56	0.0	13	12	14	5	w.	W. G. Branch.
Portsmouth	Scioto	527	79	73.2	− 3.5	93	29	42	20	37	3.67	− 0.34	1.20	0.0	9	15	4	12	w.	Dr. H. A. Schirrman.
Rittman	Wayne	990	17	68.8	− 2.9	92	12	44	4	36	4.15	− 0.71	1.72	0.0	9	21	8	2	n.	J. B. Gish.
Shenandoah	Richland	1,100	18	68.2	− 3.9	89	12†	42	4	33	2.93	− 1.99	1.16	0.0	10	8	21	2	sw.	T. B. Arnett.
Sidney	Shelby	985	15	72.2	− 4.3	93	12	50	4†	34	3.81	− 0.16	1.70	0.0	13	16	7	8	sw.	H. B. Blake.
Somerset	Perry	1,080	11	72.0	− 3.8	93	1	51	19	31	4.25	− 0.03	0.97	0.0	14	14	10	7	s.	Miss M. C. Sheridan.
Springfield	Clark	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.27	+ 3.66	1.52	0.0	15	8	17	6	se.	W. A. Webster.
Summerfield	Noble	.....	4	69.8	.....	91	1†	42	20	40	3.78	.....	0.89	0.0	10	7	18	6	sw.	H. R. McClintock.
Thurman	Gallia	696	17	72.2	− 3.8	93	29	49	4†	32	3.34	− 0.38	1.20	0.0	9	7	15	9	w.	D. D. Thomas.
Urbana	Champaign	1,031	14	71.4	− 2.2	93	1	46	4†	37	6.10	+ 1.62	1.88	0.0	11	11	17	3	nw.	Prof. J. H. Williams.
Warren	Trumbull	.....	12	69.7	− 2.8	91	12	43	5	40	3.51	− 1.30	1.06	0.0	7	15	9	7	sw.	M. D. McCorkle.
Waverly	Pike	500	27	72.6	− 3.2	93	1†	48	20	36	3.99	+ 0.20	1.43	0.0	12	13	4	14	s.	D. Lorbach.
Waynesville*	Warren	700	25	69.9	− 4.4	88	29†	51	4†	24	4.60	+ 2.18	0.74	0.0	16	15	8	8	sw.	Charles Michener.
Wooster	Wayne	1,030	25	69.8	− 1.6	89	12†	45	4	35	4.05	− 0.13	1.70	0.0	11	18	10	3	s.	Experiment Station.
Youngstown	Mahoning	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.94	.....	1.06	0.0	12	17	0	14	s.	G. R. Patton.
Zanesville	Muskingum	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.53	− 1.83	1.03	0.0	11	15	2	14	s.	S. G. Sprague.
Virginia.																				
Big Stone Gap	Wise	1,540	18	71.0	− 1.5	86	2	50	20	29	4.37	− 1.06	1.00	0.0	14	16	6	9	w.	John W. Fox, sr.
Blacksburg	Montgomery	2,170	18	66.2	− 5.0	87	1†	41	20	37	3.47	− 1.29	1.50	0.0	8	19	8	4	n.	Agric. Experiment Sta
Burksgarden	Tazewell	3,250	14	63.5	− 4.1	81	2†	36	20	38	5.91	+ 1.27	1.15	0.0	9	9	8	14	w.	C. H. Greever.
Elk Knob	Lee	3,243	6	71.2	.....	87	29	52	4	23	3.20	− 2.19	1.40	0.0	15	13	12	6	sw.	Henry Nicoll.
Galax	Grayson	2,300	.....	67.2	.....	86	30†	42	20	36	2.66	.....	1.03	.....	7	23	5	3	sw.	E. C. Williams.
Ivanhoe*‖	Wythe	2,028	5	68.8	.....	84	2	52	20	24	2.44	.....	0.81	0.0	13	15	12	4	w.	Miss Alice G. Jewett.
Marion	Smyth	2,224	14	68.9	− 3.6	87	2	44	20	35	4.01	− 0.49	0.92	0.0	11	23	5	3	sw.	S. W'n. State Hospital.
Max Meadows‖*	Wythe	2,028	13	68.6	− 2.5	90	2	45	20	37	2.17	− 2.36	0.63	0.0	11	11	10	5	sw.	James M. Graham.
Mendota	Washington	1,350	.....	.....	.....	.....	.....	.....	.....	.....	5.74	.....	1.40	0.0	14	.....	.....	.....	.....	Frank M. Baker.
Radford	Montgomery	1,773	.....	.....	.....	.....	.....	.....	.....	.....	6.82	.....	1.16	0.0	12	.....	.....	.....	.....	Arthur Roberts.
Speers Ferry	Scott	1,221	.....	.....	.....	.....	.....	.....	.....	.....	6.36	+ 1.08	1.30	0.0	13	.....	.....	.....	.....	Mrs. L. E. Venable.
Wytheville	Wythe	2,293	16	67.8	− 3.6	86	2	46	20	34	2.67	− 1.73	0.94	0.0	13	17	11	3	w.	U. S. Weather Bureau.
North Carolina.																				
Andrews	Cherokee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. D. Link.
Asheville	Buncombe	2,250	30	70.0	− 1.7	87	15	52	20	27	5.54	+ 0.68	1.28	0.0	15	9	10	12	nw.	U. S. Weather Bureau.
Banners Elk	Watauga	3,750	1	64.3	.....	84	2	38	20	38	4.18	.....	1.16	0.0	16	16	4	11	w.	T. L. Lowe.
Brevard	Transylvania	2,230	8	72.4	.....	90	3	50	20	31	8.34	+ 2.85	1.90	0.0	15	17	10	4	s.	W. E. Breese.
Bryson City	Swain	2,000	.....	.....	.....	.....	.....	.....	.....	.....	6.18	+ 0.90	99	0.0	13	.....	.....	.....	.....	D. K. Collins.
Hendersonville	Henderson	2,167	13	70.9	− 1.4	89	2†	50	20	32	5.04	− 1.16	1.02	0.0	16	18	9	4	w.	T. W. Valentine.
Hot Springs	Madison	1,326	11	72.4	− 2.3	89	12	52	20	29	6.41	.....	1.75	0.0	12	14	9	8	w.	P. A. Garner.
Jefferson	Ashe	2,800	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. T. Colvard.
Marshall	Madison	1,646	8	71.7	.....	88	2†	50	20	32	5.91	+ 2.23	2.09	0.0	11	23	6	2	.....	W. E. Finley.
Murphy	Cherokee	1,614	.....	.....	.....	.....	.....	.....	.....	.....	5.64	− 0.37	1.22	0.0	8	.....	.....	.....	.....	Miss Julia Campbell.
Rock House	Macon	2,800	17	67.8	.....	83	13	54	8†	25	6.76	− 1.61	1.61	0.0	16	9	14	8	sw.	B. C. Hawkins.
Sunburst	Haywood	.....	.....	66.9	.....	82	12	47	20	28	6.85	.....	3.90	0.0	9	15	13	3	n.	Lucien Buck.
Waynesville	....do	2,756	15	68.7	− 1.7	87	12†	48	20	32	6.03	+ 1.20	1.30	0.0	12	13	8	10	w.	J. P. Swift.
Georgia.																				
Diamond	Gilmer	2,020	16	71.8	− 2.7	85	2†	54	25	28	4.85	+ 1.86	2.25	0.0	12	16	11	4	.....	R. A. Kimzey.
LaFayette	Walker	781	2	76.2	.....	95	15†	49	25	36	4.54	.....	1.00	0.0	11	19	7	5	nw.	Ralph A. Snow.
Alabama.																				
Albertville (1)	Marshall	1,042	1	76.2	.....	95	29	53	25	34	4.53	.....	1.70	0.0	7	18	10	3	w.	Prof. J. B. Hobdy.
Bridgeport	Jackson	660	.....	.....	.....	.....	.....	.....	.....	.....	4.63	.....	2.03	0.0	6	18	1	12	n.	Miss Maggie Rinkle.
Decatur	Morgan	573	27	79.5	− 0.3	97	29	55	25	32	6.14	+ 1.81	2.12	0.0	8	19	3	9	s.	Ernest A. Carriger.
Florence	Lauderdale	563	25	79.0	− 0.2	97	28	55	25	33	4.49	− 0.20	1.74	0.0	6	20	7	4	sw.	G. H. Smith.
Guntersville	Marshall	580	.....	.....	.....	.....	.....	.....	.....	.....	4.68	.....	1.28	0.0	8	15	6	10	ne.	L. S. Long.
Madison	Madison	573	15	78.8	− 0.5	98	29	59	20†	32	2.43	− 1.96	1.10	0.0	9	22	8	1	sw.	Albert Klish.

TABLE 1.—*Climatological data for July, 1909. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Alabama—Cont'd.																			
Riverton	Colbert	360	12	78.8	− 0.1	98	29	54	24	34	2.58	− 1.80	0.98	0.0	5	18	5	8	se.	E. R. Nelles.
Scottsboro[a]	Jackson	652	26	76.1	− 2.2	93	29	53	25	29	4.59	− 0.66	1.12	0.0	9	10	17	4	.....	Miss Irene Caldwell.
Tuscumbia	Colbert	488	27	79.8	− 0.2	97	2	59	25	31	5.91	+ 1.72	2.01	0.0	7	19	0	12	se.	Samuel Moore.
Tennessee.																				
Ashwood	Maury	725	31	76.0	− 2.3	93	29	59	25	35	1.58	− 3.03	0.63	0.0	4	10	10	11	s.	Mrs. J. W. Fleming.
Benton	Polk	880	23	76.5	− 0.3	95	28	53	25	33	3.71	− 0.87	1.26	0.0	9	7	18	6	n.	G. L. Williams.
Byrdstown	Pickett	1,026	15	74.6	− 1.2	91	29	55	25	32	7.97	+ 3.00	1.86	0.0	12	6	24	1	s.	Dr. Jno. C. Chilton.
Carthage	Smith	500	27	75.8	− 2.5	96	29	53	29†	36	3.36	− 0.96	1.40	0.0	8	19	3	9	se.	E.C Pickering.
Cedar Hill[i]	Robertson	625	12	78.7	− 0.1	97	21	57	20	37	.....	.....	.....	0.0	7	.....	.....	.....	s.	J. F. Ruffin.
Chattanooga	Hamilton	808	31	76.8	− 1.0	93	29	60	25	24	4.61	+ 0.74	1.81	0.0	10	8	15	8	nw.	U. S. Weather Bureau.
Clarksville	Montgomery	520	43	77.4	− 1.1	97	29	56	25	32	4.23	+ 0.43	1.30	0.0	8	18	8	5	n.	Prof. Jas. A. Lyon.
Decatur	Meigs	850	14	76.2	− 1.4	96	3	58	4†	33	7.49	+ 2.45	2.78	0.0	15	15	10	6	sw.	J. W. Lillard.
Dickson	Dickson	800	13	75.9	− 1.9	93	28	52	25	32	4.14	+ 0.11	1.20	0.0	11	11	15	5	nw.	N. R. Sugg.
Dover	Stewart	.....	15	78.3	+ 0.2	95	2†	53	20	36	5.85	+ 2.76	2.05	0.0	9	15	10	6	s.	A. M. Tippit.
Dunlap	Sequatchee	726	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. B. Boyd.
Elizabethton	Carter	1,575	20	75.3	− 0.5	95	29	53	25	35	2.63	− 1.81	0.56	0.0	9	15	11	5	w.	Lee F. Miller.
Erasmus	Cumberland	1,850	13	71.0	− 1.2	90	2	44	29	38	8.02	+ 2.11	3.07	0.0	12	15	11	5	w.	Mrs. E. D. Ashley.
Florence	Rutherford	560	28	76.3	− 1.9	93	29	55	25	28	2.68	− 1.57	1.07	0.0	7	16	9	6	w.	Erastus P. Bell.
Franklin	Williamson	655	18	76.6	− 1.5	93	29	55	25	27	2.58	− 1.21	1.10	0.0	7	11	8	12	.....	J. L. Parkes, jr.
Harriman	Roane	841	14	76.8	+ 0.1	96	1	55	25	35	7.84	+ 2.64	2.88	0.0	12	9	16	6	.....	Robert R. Ayres.
Hohenwald	Lewis	983	24	76.6	+ 0.2	93	28†	53	20	34	4.88	+ 0.09	1.72	0.0	11	10	18	3	se.	John Lutzelman.
Iron City	Lawrence	.....	12	77.0	− 0.9	96	28	51	25	33	3.42	− 0.10	1.24	0.0	6	6	25	0	nw.	Capt. H. P. Seavy.
Johnsonville	Humphreys	364	14	78.2	− 0.7	95	3†	53	25	34	5.86	+ 1.95	1.32	0.0	13	13	13	5	s.	Miss Sallie B. Mathews.
Jonesboro	Washington	1,740	13	72.0	− 2.6	90	2	53	4†	30	3.47	− 1.37	1.10	0.0	8	18	10	3	sw.	James H. Epps, jr.
Knoxville	Knox	977	39	75.1	− 1.1	92	3	59	25	25	7.01	+ 2.80	2.58	0.0	14	8	11	12	sw.	U. S. Weather Bureau.
Lebanon	Wilson	522	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Logan Fields.
Lewisburg	Marshall	727	16	77.2	− 1.1	95	28	50	25	37	2.50	− 2.19	0.63	0.0	8	12	15	4	s.	Dr. R. D. Crutcher.
Lynnville	Giles	770	21	77.2	− 1.1	93	30	54	25	31	4.46	− 0.78	1.45	0.0	10	13	15	3	s.	Col. J. H. Burrow.
McMinnville	Warren	1,011	26	75.2	− 1.2	93	29	52	25	34	6.99	+ 1.71	1.99	0.0	11	10	19	2	s.	J. T. Sparkman.
Maryville	Blount	1,050	15	75.8	− 2.0	95	3	57	5†	31	9.08	+ 4.50	1.67	0.0	15	14	12	5	e.	Mrs. F. E. Benedict.
Mountain City	Johnson	2,486	13	68.6	− 1.2	88	2†	40	20	40	5.17	− 0.54	0.88	0.0	10	15	11	5	.....	E. E. Barry.
Nashville	Davidson	654	39	77.6	− 1.8	93	2	58	25	28	4.93	+ 0.58	3.43	0.0	9	9	14	8	w.	U. S. Weather Bureau.
Newport[b]	Cocke	1,280	19	73.4	− 3.2	87	12	54	20	26	5.30	+ 0.80	1.80	0.0	7	19	6	4	w.	Dr. C. T. Burnett.
Palmetto	Bedford	770	16	76.8	− 1.4	95	29	53	25	30	3.22	− 2.15	1.17	0.0	10	15	12	4	sw.	Mrs. Ross Woods.
Pinewood[a]	Hickman	.....	3	76.0	.....	96	29	52	20	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Carrie Cash.
Pope	Perry	.....	13	79.2	+ 0.3	99	29	56	26	35	2.10	− 1.39	0.75	0.0	4	25	3	2	s.	Miss Bessie Howard.
Rogersville	Hawkins	1,150	25	73.2	− 1.3	91	2	52	20	30	5.52	+ 0.81	1.90	0.0	15	14	5	12	e.	Fred Beal.
Rugby	Morgan	1,410	22	72.2	− 1.8	92	2	46	25	39	6.21	+ 0.85	1.50	0.0	11	4	15	12	nw.	S. G. Wilson.
Savannah	Hardin	442	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. F. Bell.
Sevierville	Sevier	.....	4	74.7	.....	93	3	52	20	36	5.92	.....	1.42	0.0	13	4	12	15	sw.	H. O. Eckel.
Sewanee	Franklin	2,000	15	73.8	− 1.1	88	4†	58	20	25	2.71	− 2.44	.....	0.0	.....	8	0	23	s.	University of South.
Sparta	White	920	4	75.6	.....	91	3†	54	26	33	4.98	.....	1.46	0.0	6	9	12	10	w.	E. H. Hull.
Springdale	Claiborne	1,058	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Lucy E. Breeding.
Springville	Henry	377	7	77.4	.....	94	2†	52	25	33	5.53	+ 1.27	1.60	0.0	13	17	11	3	sw.	H. A. Boden.
Tellico Plains	Monroe	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tullahoma	Coffee	1,075	21	75.8	− 0.4	93	28	50	25	35	2.40	− 2.42	0.78	0.0	8	12	15	4	s.	R. T. Moore.
Waynesboro	Wayne	753	23	76.9	− 0.9	95	29	53	20†	33	3.16	− 1.38	0.82	0.0	11	14	14	3	sw.	H. C. Boyd.
Widersville	Henderson	.....	12	78.0	+ 0.5	97	28	55	24†	35	4.26	+ 0.20	1.44	0.0	5	15	12	4	s.	W. R. Wilson.
Yukon	Lincoln	850	14	77.4	− 1.1	96	29	55	25	32	4.56	+ 0.30	1.70	0.0	8	8	19	4	w.	W. P. Watson.
Kentucky.																				
Alpha	Clinton	.....	15	74.5	− 2.6	90	3†	54	20†	30	3.92	− 1.96	0.92	0.0	7	16	4	11	s.	W. W. Hicks.
Anchorage	Jefferson	700	8	72.4	.....	94	29	49	24	34	5.23	.....	1.76	0.0	14	10	12	9	sw.	C. E. Barrett.
Bardstown	Nelson	637	13	75.6	− 2.9	96	2	53	24	36	9.74	+ 5.13	2.24	0.0	15	16	0	15	sw.	G. M. Talbott.
Beattysville	Lee	650	6	73.0	.....	95	29	48	20	40	6.22	.....	2.62	0.0	10	9	7	15	w.	G. W. Cann.
Beaverdam	Ohio	441	6	75.8	.....	96	29	54	20†	28	6.33	.....	2.00	0.0	10	21	0	10	s.	T. S. Woodward.
Berea	Madison	1,070	8	74.0	.....	93	25	49	20	41	5.69	.....	1.53	0.0	9	17	13	1	sw.	C. F. Rumold.
Bowling Green	Warren	500	20	77.6	− 1.3	98	29	54	20	40	7.19	+ 2.95	3.00	0.0	13	14	5	12	n.	Mrs. L. G. Causey.
Burnside	Pulaski	589	19	.....	.....	.....	.....	.....	.....	.....	5.34	+ 0.70	1.34	0.0	13	16	5	10	n.	G. M. Estes.
Cadiz	Trigg	.....	7	77.8	.....	97	2†	52	25	37	5.51	.....	1.56	0.0	9	14	13	4	.....	John S. Lawrence.
Calhoun	McLean	397	6	77.7	.....	99	30	54	24	39	9.15	.....	2.28	0.0	12	10	14	7	sw.	W. A. Taylor.
Catlettsburg	Boyd	544	16	75.4[b]	− 2.1	95[b]	12	52[b]	19†	37	4.36	+ 0.47	1.62	0.0	11	23	3	5	n.	Chas. N. Bruns.
Earlington	Hopkins	370	20	75.3	− 2.9	98	30	49	25	42	3.95	− 0.56	1.79	0.0	8	23	1	7	sw.	J. B. Atkinson.
Edmonton	Metcalfe	600	18	74.8[d]	− 1.0	93[d]	29	52[d]	25	33[d]	6.23	+ 1.68	2.83	0.0	13	6[a]	20[a]	4[a]	s.	Miss Lee Ray.
Eubank	Pulaski	1,177	15	73.2	− 1.8	91	29	53	21†	35	4.62	+ 0.52	1.45	0.0	13	16	0	15	se.	W. H. Henderson.
Falmouth	Pendleton	530	20	.....	.....	.....	.....	.....	.....	.....	5.13	+ 1.28	1.90	0.0	10	10	8	13	s.	J. V. Oldham.
Farmers	Rowan	668	4	72.0	.....	93	1	49	4†	33	7.59	.....	2.09	0.0	16	10	14	7	w.	Miss Gertrude Sorrell.
Frankfort	Franklin	560	19	73.7	− 3.0	90	1†	54	20	29	7.02	+ 3.33	1.73	0.0	12	9	10	12	nw.	Gustave Schaefer.
Franklin	Simpson	691	16	76.8	− 0.9	95	6†	54	20	35	5.24	+ 1.26	1.50	0.0	9	4	24	3	nw.	J. E. Newman.
Greensburg	Green	581	17	72.8	− 4.5	93	29	42	25	41	7.95	+ 3.27	1.40	0.0	16	14	1	16	ne.	L. C. Alcorn.
Highbridge	Jessamine	762	7	.....	.....	.....	.....	.....	.....	.....	5.17	.....	1.04	0.0	15	16	2	13	.....	Miss Lulu Wood.
Hopkinsville	Christian	524	13	78.6	− 0.1	99	30†	56	25	37	5.92	+ 2.13	2.10	0.0	9	16	3	12	w.	W. F. Randle.
Irvington	Breckinridge	.....	11	75.3	− 2.2	93	29†	56	4	30	6.31	+ 3.31	1.26	0.0	11	17	4	10	sw.	W. J. Piggott.
Leitchfield	Grayson	635	14	74.4	− 2.6	91	30	56	20†	30	7.77	+ 4.31	3.06	0.0	12	17	7	7	ne.	John E. Stone.
Lexington	Fayette	989	22	72.7	− 3.9	89	22	55	4	25	5.98	+ 1.54	2.11	0.0	18	17	12	2	sw.	U. S. Weather Bureau.
Loretto	Marion	681	12	73.9[a]	− 2.7	93[a]	2	51[a]	21†	38[a]	6.52	+ 2.60	1.84	0.0	11	17	10	4	.....	Loretto Academy.
Louisville	Jefferson	525	37	76.0	− 2.6	96	29	59	4	28	7.23	+ 3.49	3.08	0.0	12	8	10	13	ne.	U. S. Weather Bureau.
Marion	Crittenden	.....	15	76.6	− 1.2	94	2†	56	20†	32	2.76	− 1.14	1.18	0.0	5	16	8	7	w.	B. C. Paris.
Maysville	Mason	524	13	73.2	− 4.4	95	22†	49	4	39	4.07	+ 0.22	1.39	0.0	12	15	6	10	ne.	Mrs. M. D. Marsh.
Middlesboro	Bell	1,128	16	72.5	− 1.6	92	1	54	4†	29	5.26	− 0.21	2.17	0.0	9	25	3	3	.....	B. H. Perkins.
Mt. Sterling	Montgomery	930	20	75.4	− 0.3	94	29	51	20	29	7.33	+ 2.73	2.30	0.0	11	13	11	7	s.	James O'Connell.
Owensboro	Daviess	479	13	75.4	− 2.6	94	2†	59	4†	30	7.70	+ 4.36	1.90	0.0	11	17	5	9	se.	Henry S. Berry.
Owenton	Owen	700	13	72.4[a]	− 5.1	91[a]	30	51[a]	24	32[a]	9.94	+ 6.13	2.63	0.0	10	13	14	4	.....	J. T. Walker.
Paducah	McCracken	341	17	81.1	− 0.2	97	2†	56	27	27	6.59	+ 2.62	2.00	0.0	8	22	4	5	ne.	W. R. Wright.
Pikeville	Pike	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.96	.....	2.54	0.0	12	7	11	12	.....	A. R. Williams.
Richmond	Madison	926	20	73.9	− 3.1	93	29	54	4†	29	4.52	+ 0.83	1.71	0.0	13	12	5	14	.....	I. W. Crooke.
St. John	Hardin	777	13	73.4	− 2.4	94	29†	52	24	34	5.65	+ 2.61	1.16	0.0	14	19	5	7	.....	Bethlehem Academy.
Scott	Kenton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. B. Wilson.
Shelby City	Boyle	1,087	15	71.4	− 4.1	90	29	48	20	36	4.45	+ 0.39	1.10	0.0	10	12	11	8	w.	W. E. Grubbs.
Shelbyville[h]	Shelby	759	20	72.6	− 4.6	94	30	51	24	39[j]	3.89	− 0.04	1.42	0.0	9	7	9	7	s.	Dr. H. W. Preissler.
Taylorsville	Spencer	422	7	73.7	.....	95	29	53	4†	36	5.60	.....	1.96	0.0	13	11	14	6	n.	E. D. Bourne.
Williamsburg	Whitley	939	12	74.9	− 2.6	95	29	53	20	30	5.40	− 0.68	1.70	0.0	7	11	2	18	.....	Mrs. Anna L. Adkins.
Williamstown	Grant	943	7	77.5	.....	90	29	55	24	23	5.59	.....	2.15	0.0	11	19	5	7	.....	Mrs. Sarah E. Carter.
Indiana.																				
Anderson	Madison	892	12	72.0	− 2.4	93	29	51	24	31	5.09	+ 1.50	1.39	0.0	13	14	10	7	sw.	W. H. Stanton.
Bloomington	Monroe	744	11	73.0	− 3.2	93	30	51	24	32	6.73	+ 3.47	1.68	0.0	12	15	5	11	se.	E. E. Ramsey.
Bluffton	Wells	835	6	71.3	.....	93	30	48	20†	38	1.06[a]	.....	0.40[a]	0.0	9	.....	.....	.....	.....	C. C. Dean.
Butlerville	Jennings	767	16	73.0	− 2.7	94	29	50	4†	31	6.39	+ 3.01	1.24	0.0	11	19	7	5	.....	C. F. Hole.

TABLE 1.—*Climatological data for July, 1909. District No. 3*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Indiana—Cont'd.																				
Cambridge City	Wayne	941	10	71.0	− 3.5	93	29†	47	20†	37	5.67	+ 2.44	1.32	0.0	14	17	0	14	sw.	Charles Lemberger.
Columbus	Bartholomew	632	18	72.6	− 3.1	96	29	50	4†	36	3.15	+ 0.19	0.92	0.0	11	17	4	10	sw.	John A. Perry.
Connersville	Fayette	769	20	72.4	− 2.3	95	29	49	20†	36	4.73	+ 1.80	0.80	0.0	12	21	5	5	nw.	C. C. Hibbs.
Delphi	Carroll	668	16	71.1	− 3.6	95	28†	47	19†	36	4.92	+ 1.68	2.00	0.0	12	7	14	10	.....	R. L. Higginbotham & Son
Eminence	Morgan	782	....	71.5	.....	93	29	50	24	31	5.29	.....	1.30	0.0	8	21	7	3	w.	Dr. E. E. Kelso.
Evansville	Vanderburg	386	10	76.4	− 2.9	95	2	59	4	28	5.73	+ 1.92	2.10	0.0	8	11	15	5	ne.	U. S. Weather Bureau
Farmersburg§	Sullivan		....	73.4	.....	94	29	52	4†	29	8.06	.....	1.91	0.0	10	17	3	11	sw.	Maurice Yeager.
Farmland	Randolph	1,101	20	70.4	− 3.3	88	2†	51	5	27	5.91	+ 2.45	1.69	0.0	10	13	2	16	w.	W. J. Davisson.
Greenfield	Hancock	905	....	71.8	.....	90	29	51	24	27	5.76	.....	2.02	0.0	12	2	23	6	w.	W. C. Goble.
Greensburg	Decatur	954	5	72.7	.....	96	29	50	24	29	4.70	+ 0.75	1.15	0.0	11	18	5	8	w.	Charles H. Ewing.
Heltonville	Lawrence		....		.....						6.32	.....	1.58	0.0	10	.....	.....	.....	w.	E. L. Palmer.
Huntingburg	Dubois		....	76.0	.....	99	30	53	21†	37	7.76	.....	4.55	0.0	7	.....	.....	.....	.....	H. Dufendach.
Huntington	Huntington	741	11	71.8	− 3.2	93	28	50	24	35	2.82	− 0.90	0.89	0.0	11	13	12	6	e.	Charles McGrew.
Indianapolis	Marion	822	33	72.2	− 4.0	92	30	55	29	24	5.42	+ 1.29	1.91	0.0	13	9	13	9	ne.	U. S. Weather Bureau.
Jeffersonville§	Clark	455	12	75.2	− 2.5	96	29	54	24	31	6.44	+ 2.41	1.86	0.0	15	10	11	10	n.	John C. Loomis.
Judyville	Warren		....	70.4	.....	95	29	45	19†	38	3.72	.....	1.01	0.0	10	15	6	10	e.	D. R. Warrick.
Kokomo	Howard	840	11	70.8	− 4.5	91	28	49	19†	31	5.84	+ 2.73	1.46	0.0	11	12	10	9	w.	John W. Doty.
Lafayette	Tippecanoe	617	22	71.4	− 3.4	94	28†	50	24	30	3.80	+ 0.28	0.93	0.0	7	16	3	12	ne.	W. J. Jones, Jr.
Logansport	Cass	620	17	72.6	− 3.1	97	28	49	4†	37	5.99	+ 3.47	2.10	0.0	9	18	4	9	w.	Charles Massena.
Madison	Jefferson	460	11	75.5	− 2.4	98	1	53	23†	35	9.37	+ 6.24	2.73	0.0	11	14	7	10	e.	J. Cooperider.
Marengo	Crawford	363	19	73.5	− 3.4	93	2†	52	4†	34	5.57[b]	.....	1.72[b]	0.0	10	15	8	8	sw.	J. M. Johnson.
Marion	Grant	814	14	71.6	− 2.7	93	1†	49	19	36	5.39	+ 2.97	2.43	0.0	9	17	7	7	s.	James F. Hood.
Markle	Huntington	814	10	73.0	+ 0.1	94	28	47	4	35	2.40	− 0.66	0.70	0.0	7	16	9	6	w.	I. S. Shideler.
Mauzy	Rush	980	21	71.0	− 2.4	94	29	49	4	34	4.75	+ 1.89	0.91	0.0	14	10	12	9	nw.	E. Kirkwood.
Moores Hill	Dearborn		....	72.2	.....	94	29	50	4	32	4.34	.....	1.11	0.0	11	19	2	10	nw.	W. S. Bigney.
Mount Vernon	Posey	410	15	75.9	− 2.5	96	2	56	25	32	10.25	+ 5.70	4.34	0.0	8	22	2	7	s.	C. M. Spencer.
Paoli	Orange	611	5	73.2	.....	94	30	48	24	38	8.80	+ 6.87	1.27	0.0	12	12	12	7	nw.	James A. Gillum.
Princeton	Gibson	481	19	75.2	− 1.7	98	29†	53	25	33	4.76	+ 1.93	1.28	0.0	8	22	4	5	ne.	Elisha Jones.
Richmond	Wayne	972	17	69.7	− 5.0	89	28†	48	4†	33	5.84	+ 2.60	1.19	0.0	16	12	11	8	.....	Walter Vossler.
Rochester	Fulton	775	....	72.6	.....	89	2†	52	4†	27	1.88	.....	0.70	0.0	9	17	7	7	.....	J. P. Keith.
Rockville	Parke	722	15	71.8	− 3.5	92	29	52	24	26	6.89	+ 3.74	1.48	0.0	10	15	5	11	s.	Dr. W. N. Wirt.
Rome	Perry	370	....	77.2	.....	98	29†	54	24†	39	5.88	.....	1.96	0.0	11	19	7	5	w.	Adam Anspach.
Salamonia	Jay		....	70.0	.....	91	1†	47	4†	36	3.33	.....	0.72	0.0	12	11	5	15	ne.	C. V. Skinner.
Salem	Washington	717	11	73.0	− 4.2	94	29†	51	4†	36	9.31	+ 6.61	2.00	0.0	13	13	15	3	w.	E. S. Allen.
Scottsburg	Scott	570	10	75.8	− 2.2	95	2†	56	24†	32	10.49	+ 7.47	2.89	0.0	12	12	10	9	n.	F. H. Park.
Seymour	Jackson	610	14	74.6	− 2.5	96	1†	49	24	39	4.81	+ 1.48	1.53	0.0	13	9	19	3	sw.	J. R. Blair.
Shelbyville	Shelby		....	72.0	.....	97	29	50	24	31	5.29	.....	1.27	0.0	13	6	20	5	n.	B. F. Crouch.
Terre Haute	Vigo	498	11	75.1	− 3.2	94	2†	55	4†	28	4.55	+ 1.56	1.04	0.0	10	15	6	10	sw.	R. G. Gillum.
Veedersburg	Fountain	612	....	71.7	.....	95	1†	41	24	43	3.84	.....	1.08	0.0	11	21	4	6	s.	L. A. Culver.
Vevay	Switzerland	525	19	74.8	− 2.6	96	30	56	20	27	7.40	+ 3.95	3.80	0.0	9	7	12	12	se.	Miss Frederica Boerner.
Vincennes	Knox	431	10	75.8	− 3.0	97	29†	54	24	34	5.85	+ 1.92	1.30	0.0	9	18	3	10	s.	G. V. List.
Washington	Daviess	484	7	74.4	.....	93	29	55	4†	34	5.54	+ 2.12	1.60	0.0	9	20	2	9	s.	H. B. Turrell.
Whitestown	Boone		....	70.3	.....	90	29	51	4†	27	5.88	+ 2.21	1.33	0.0	14	5	20	6	nw.	C. A. Stevenson.
Winona Lake	Kosciusko		....	71.6	.....	95	28	48	4†	35	3.53	.....	1.74	0.0	9	3	23	5	e.	Rev. A. A. Young.
Worthington	Greene	526	20	74.0	− 1.2	94	30	52	24	30	7.61	+ 4.06	1.56	0.0	12	.....	.....	.....	.....	C. A. Geckler.
Illinois.																				
Albion	Edwards	531	17	76.6	− 1.5	95	6†	56	4	31	4.93	+ 0.92	1.60	0.0	7	17	5	9	e.	B. F. Michels.
Cairo	Alexander	359	33	79.0	+ 0.4	94	6	63	26	25	3.13	− 0.32	2.03	0.0	7	15	7	9	s.	U. S. Weather Bureau.
Charleston	Coles	720	18	73.1	− 3.3	94	29	50	4	32	9.05	+ 5.18	2.72	0.0	10	10	14	7	ne.	Jacob B. Dazey.
Equality	Gallatin	421	9	77.9	− 1.0	99	2	57	4	37	8.19	+ 3.69	2.40	0.0	10	9	19	3	s.	Dr. L. W. Gordon.
Fairfield*	Wayne	495	18	75.1	− 2.6	96	2†	52	25†	38	5.35	+ 1.36	1.43	0.0	10	21	2	8	ne.	George A. Tromly.
Flora	Clay	495	23	75.5	− 1.0	99	30	54	4†	35	6.57	+ 2.14	1.30	0.0	13	17	10	4	se.	Jos. S. Peak.
Golconda	Pope	500	30	78.8	+ 0.3	99	28	54	25	37	4.09	+ 0.64	1.34	0.0	9	16	7	8	sw.	Dr. D. Lawrence.
Hoopeston	Vermilion	715	7	71.0	.....	93	29	48	4†	30	6.07	.....	1.71	0.0	13	19	6	6	.....	S. F. Hoskinson.
McLeansboro	Hamilton	462	26	75.3	− 2.3	94	6	56	25	28	6.34	+ 3.12	2.45	0.0	7	16	8	7	s.	C. C. Judd.
Martinsville*	Clark	630	20	74.2	− 2.2	102	29	51	19	39	9.43	+ 5.73	3.85	0.0	12	12	3	16	n.	G. M. Daugherty.
New Burnside	Johnson	556	14	76.3	− 2.6	94	2	55	30	35	3.28	− 1.13	1.02	0.0	7	19	3	9	s.	George Harris.
Olney	Richland	486	19	75.7	− 2.4	97	30	52	27	33	5.03	+ 1.30	1.46	0.0	9	12	10	9	sw.	Victor E. Phillips.
Palestine	Crawford	500	26	74.2	− 2.2	97	30	51	24	39	5.24	+ 1.61	2.61	0.0	8	10	13	8	sw.	Alexander Charley.
Paris	Edgar	600	12	73.0	− 2.9	95	29†	50	4	32	4.96	+ 1.69	1.80	0.0	9	16	12	3	se.	H. W. Twyman.
Philo	Champaign	700	24	71.4	− 3.2	95	29	49	4†	33	8.16	+ 4.28	4.08	0.0	8	17	8	6	ne.	H. A. Burr.
Rantoul	....do....	768	18	72.0	− 3.6	96	29	47	4	34	3.27	− 0.64	1.58	0.0	9	21	2	8	nw.	Wm. Breiner.
Robinson	Crawford	500	9	74.4	.....	95	29†	52	19	32	8.04	+ 3.59	3.80	0.0	11	14	14	3	sw.	A. P. Woodworth.
Sumner	Lawrence	459	....	74.2	.....	92	29†	53	19†	28	3.56	.....	0.86	0.0	7	22	0	9	n.	O. A. Fyffe.
Tuscola	Douglas	644	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. W. Lester.
Urbana	Champaign	725	7	71.0	.....	93	29	49	4	30	7.57	.....	3.15	0.0	9	7	20	4	ne.	Prof. J. G. Mosier.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 3, Ohio Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New York.																																	
Allegany	Allegheny			.35								.71	.29	.33	.09	.17	.15		.22			.07	.35	.41	.46			.01		.01	T.		3.62
Bolivar	do			T.									T.	.18	.02	T.			.10	.01		.02	.30	.57	.18			T.					1.38
Franklinville	do			.07								.16	.11	.08	T.	T.			.46			.08	.40	1.43	.82	.02		T.		T.	.06		2.69
Jamestown	do																																
Olean	do											T.	1.12	.26		.02	.04	.06	T.				.06	.76	.40								2.72
Maryland.																																	
Deer Park	Youghiogheny													.50			.16							.37	.11			1.00	.81	.80	.52		4.27
Grantsville	do												.03	.20		T.	T.	T.	.22					.80					T.	T.	T.		1.25
Oakland	do					T.							.21	.19		.03	.15		.04					.64	.11			.83	.05	.03	.69	.09	3.06
Pennsylvania.																																	
Aleppo	Ohio												.94	.74			.12		.10					.69	.06			.68		.40	.77		4.50
Baldwin	Allegheny												.07	.56	.11	.14	.27							.80	.16			.07		.55	.06		2.79
Beaver Dam	Ohio		.29										.36	.92	.22	.78	.52			.13			.01	.13	.11			.03			.07		3.57
California[a]	Monongahela												.35	.37			T.		.22		.80							T.		.25	1.00		
Clarion	Allegheny													.02			.04							2.00	.04		.01			T.	.10		2.21
Claysville	Ohio		.85									T.	.46	.14			.06		.43					.12	.06			.10		.02	.73	.46	3.43
Confluence	Youghiogheny													.16	.12		T.	.36		.40				1.40	.10	T.			.18		.14	.01	2.87
Davis Island Dam	Ohio		T.										.14	.27	.01	.12	.09			.07			.01	.23	.02	.01		.10			T.		1.07
Derry Station	Allegheny	T.											.40	.27	.01		.14		.05			T.		1.40	.13					.10			2.50
Franklin	do											T.	T.	.05	T.	.55						T.	1.85	.50			T.		.40			3.35
Freeport	do												.07	.38	.02	.47	.11			.04			T.	1.30	.09			.34			T.		2.82
Greensboro	Monongahela												.12	.56	.06	.08	.12	.02		.10			.02	.40	.10			.08	.02		.24	.02	1.94
Greensburg	Youghiogheny	.04											.06	.34	.08		.14	.05	.73			T.		1.26	.31						.05	T.	3.06
Greenville	Ohio												.31	.18	.31	T.	.23						.01	.12						.02			1.18
Grove City	do												.15	.37	T.	.82	.49					T.		.41	.15			.06		.23			2.68
Herrs Island Dam	Allegheny		T.										.14	.36	T.	.05	.10			.19			.03	.45	.10	.02		.11	T.		T.		1.55
Indiana	do													.45	.18	.06	.05					T.		1.70	.13			.27		.10	.47		3.41
Irwin	Monongahela	.03	T.											.43	.01		.10		.22					.61	.07			.13	.03	.05	T.		1.68
Johnstown	Allegheny												.03	.09	.21	.08	.02	.08		.02			.01	1.65	.13	.02		.02	T.	.20	.54		3.10
Lock No. 4	Monongahela		.04										.20	.40	.08		.03	.05		.15				.70	.10	.02		.13			.40	.75	3.05
Lycippus	Allegheny	T.	T.										.07	.47	.03	T.	.49		.36			T.		1.62	T.	.12	T.		T.	.05	.29		3.50
Parkers Landing	do												.04	.28	.10	.48	.74							.52	.06			.02		.72	T.		2.96
Pittsburg	Ohio	T.										T.	.42	T.	.01		.11		.07			T.	.18	.31	.03		.02	.07		T.		T.	1.22
Saegerstown	Allegheny												.55	.61	.65		.09						.03		.12			.02		.57			2.64
St. Marys	do												.34		.21		.24		.12				T.	1.70	.44								3.05
Saltsburg	do												.04	.38	.02	.06	.01			.02			.01	.50	.08	.12		.12			.30		1.66
Skidmore	Ohio													.60	.20		.50						.15	.20						.30	T.		1.95
Somerset	Youghiogheny													.12	.06				.40					1.20	.25			.15		.26			2.44
Springdale	Allegheny		.01										.20	.39		.58	.09			.05				.36	.15			.28			.08		2.19
Uniontown	Monongahela		.03										.30	.66			.03		.43			.02		.77	.14	.03		.07		.66	.89		4.03
Warren	Allegheny												.10	.50		.10							.06	1.86				.10		.06			2.78
West Newton	Youghiogheny		T.										.08	.30	.24			.01		.06				1.00	.14	.08		.14	T.	T.	.42	.10	2.57
West Virginia																																	
Arbovale	Great Kanawha	.04		.01		.04	.48					T.	.46	.02	.30		.02		.14		T.	.13	.13					.21		T.	1.72		3.70
Bancroft	do		.82				.66	.12						1.68	.04	.06	.58		.34				.36	.14				.14			.22	.05	5.21
Beckley	do					2.19	2.30	.05				.63	.63	.10			.22		.22				.42	.08				1.49				2.17	10.50
Ben's Run	Ohio												.80	.55			.20		.31					.40	.08			.22		.37	.47		3.40
Bluefield	Great Kanawha	.38	.03				1.40	.75						.60			.40			.10			.12	.10	.06			.14	.08	.02	.21	.05	4.44
Brandonville	Monongahela													.50	.51		.11			.20			T.	1.32	.26			T.	.01	.26	.37	.63	4.17
Buckhannon	do												.60	.70		.20	.25		.30					1.00	.22	.05	.13			.78	.18	.10	4.51
Cairo	Little Kanawha					.02				.18		1.00	1.10				.22			.14				.14	.16			.52			.56	1.57	5.61
Central Station	Middle Island Creek					T.	.07					T.	.69	.66			.26		.25			T.	T.	.20	.07	.04	.27	T.			.55	.01	3.07
Charleston	Great Kanawha		.77				.10	.41						.55			.42		.10				1.62	.14			.26	.12		.11		5.60
Creston	Little Kanawha						.38						.36	1.57			.11							.73	.10			.38	T.		1.10	.18	4.91
Cuba	Sand Creek					.07	.28	T.				T.	.41	1.56	T.		.16		.04					.51	.03		T.	.44		.88	.07	.35	4.80
Davis	Monongahela												.10	.50			.20		.25				.10	1.00	.35			.05		.10	1.85		4.50
Doane	Big Sandy																																
Elizabeth	Little Kanawha																																
Elkins	Monongahela			T.		.01	.16						.33	.12	.13	.14	.35		.19			T.	.09	1.18	.01			.35		.77	1.02		4.85
Elkhorn	Big Sandy	.19					1.08	1.26					.82				.63		.06				T.	.23				.42		1.16		2.04	7.89
Fairmont	Monongahela		.63										.10	.35			.15		.20					.56	.10			.23			.55	.43	3.30
Glenville	Little Kanawha						.20						.65	T.	.83	.35	.27			.25					1.10	.12	.17				T.	.37	4.31
Grafton[a]	Monongahela																							.17	.04			.59		.21	.69	.17	
Green Sulphur Springs	Great Kanawha																																
Hinton	do		.40				1.94	2.00	.12					.10	.06		.16		.10	.18					.20					.20	.04	.04		5.54
Huntington	Ohio	T.	.10				.84	1.04	.02					1.64	.08					.18					.28	.04			.08	.08		.20		4.58
Lewisburg	Great Kanawha	.10				T.	1.26	.12					T.	T.					T.	.30			.22	.10				.11		T.	T.	.52	2.73
Logan	Guyandotte	.10					4.26	.30				T.	.05	.85	T.		.58	T.	T.				.04	.40	.20		.10	.35	.08			.50	7.81
Lost Creek	Monongahela						.05						.70	.80			.97		.38			T.		.72	T.			.70			1.20		5.52
Madison	Great Kanawha	.62				.92	1.20	.07				.02	.60	.34		.32			.50				.73	.10			.09	.12		.22		.53	6.38
Mannington	Monongahela						.01						.48	.45			.07		.29			T.		.47	.10			.95			.16	.14	3.12
Marlinton	Great Kanawha																																
Morgantown	Monongahela												.12	.94			.40		.07			T.	T.	.62	.06	.04		.29			.48	.09	3.11
Moundsville	Ohio											T.	.30	.58	T.		.22		.25					.17	.06			.13		.05	1.16	.24	3.16
New Cumberland	do	.20											1.10		.08	.30	1.48		.30				.20	.08	T.	.05	.05	.20				T.	4.04
New Martinsville	do											.20	.80	1.22			.28		.38					.38	.21			.12		.12	.34		4.05
Nuttallburg	Great Kanawha	2.16	.32			T.	1.42	.25						.43	.82		.22		.15	.65			.50	.29	.30			.31		.08	.22	T.	8.12
Parkersburg	Ohio					.09	.20					.12	1.47	.43	.35		.34		.01				T.	.02	.01		.64	.01		1.03	.06		4.78
Parsons	Monongahela												**	.90		.20	.10		.34				.50	1.31				.23			1.57		5.88
Philippi	do						.03	T.					.56	.59	.10	.03	.48	.02	.37	.02		T.		.67		T.		.40		.04	.39	.19	3.89
Pickens	do			.07		.12	.19						.56	.90			.30		.27					1.90							1.70		6.01
Pineville	Guyandotte																																
Point Pleasant	Ohio	T.	T.				.46	.04					.02	1.14	.02		.48			.01				1.24	.04			.12			.14	.16	3.87
Powellton	Great Kanawha	.31	.47	.05				.91						.53	.21		.17	.29	.23				.09		.49			.33	.22	T.	.29		4.59
Princeton	do	.90				.50	2.00	.54					.20	.30	.81													.10		.30		.15	5.80
Robertsburg	do						.57	.06						.95			.33			.17				.23	.05			.07	.06		.06	.02	2.57
Rowlesburg	Monongahela			T.	T.								.30	.38	.20	.02	.26	.02		.04				.68	.36			.10	.12		1.60	.44	4.52
Ryan	Great Kanawha					.09	.55					T.		.83			.54		.42				.01	.38	.13		.70	.34		.68	.07		4.74
St. Marys	Ohio						.02						.70	.90	T.	.03	.37			.49				.07	.15	.17	.37		.02		.60	.36	4.25
Smithfield	Fishing Creek												.60	.58	.08					.22				.31	.11	.21		.14			.18	.14	2.57
Spencer	Little Kanawha						.50	T.					.65	.96	T.	.44				T.				.40	.11			.76	.08		.70	.09	4.69
Sutton	Great Kanawha					.30	T.						T.	.80	T.	.40			.15				.41	.25		T.			.28	.27	.10	2.96
Terra Alta	Monongahela												.48	.37		T.			T.			T.	.10	.56	.18			.30			1.51		3.50
Union	Great Kanawha		.43				1.91	1.69						.22	.10		.22	.05		.20				.65					.05			.16	.05	5.73
Valley Fork	do							.67																	2.45						.47		3.59
Webster Springs	do					.15	.21						.20	.32	.27				.40					.33				.20			.25		2.33
Wellsburg	Ohio	.22										.14	.40	.46			.15		.15				.23	.40	.08			.09		.64	.05		3.01
Weston	Monongahela		.10				.08	.04					.30	.12			.10			.60				.60	.20			.18			.10	.12	2.54
Wheeling	Ohio		.10										.46	.80	.12		.12			.18			T.	.10	.06	T.		.10			1.40	.14	3.58
Williamson	Big Sandy		T.				3.58	.78	.34					.62	.20		.15	.32		.04				.10	.06			.28	.84					7.31
Ohio																																	
Amesville	Ohio					.04	.23					.24	1.90	.85	.05	1.02			.40					.10	.02			.16		.08	.15	.54	5.78
Bangorville	Muskingum		T.									.12	1.17	.20	T.	T.	.80		T.			T.	.13	.18		T.		T.		.18		.03	2.81
Bellefontaine	Miami			.06		T.	.24	T.					.49	2.15			1.49			.19				.39	.16			.03			.77		5.97
Bladensburg	Muskingum												.33	1.16	T.		.71						.09	.13				.38		.45			3.25

TABLE 2.—*Daily precipitation for July, 1909. District No. 3*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Ohio—Cont'd.																																	
Cadiz	Ohio	.50										.03	.54	.67	.04	.02	.68		.11			T.	.12	.21		.02		.07		1.61	.07	T.	4.69
California	do						1.50					.14		1.18		.21			.11				.07	T.			.14	.01		.20	.22	.74	4.52
Cambridge	Muskingum											.51	.36	.70	.53	.78							T.	.20			.10			.55	.32		4.05
Camp Dennison	Miami					.25	.80	.10				.31	.53	.59			.21		.11				.23	.05			.38	T.			.26	.42	4.24
Canal Dover	Muskingum	.49										.14		1.42			.92			.12			.46	.08				.08		.70		T.	4.41
Canton	do												.30	1.54	.01		.69		.56	.07				.19	.20	.10		T.		.19	.38		4.23
Cardington	Scioto													.80	.04		1.23						.20	.32									2.59
Chillicothe	do					.55	.05					.83	.91				2.13						.18		.19					.98	.25		6.07
Cincinnati	Ohio					.45	.76	.14				.27	.55	.61					.11				.06	T.			.27	T.	T.	.04	.06	.51	3.83
Circleville	Scioto						.38	.03					.52	1.50	.05		1.13			.04				.53	.05			.15	.10		.03	T.	4.51
Clarington	Ohio												.87	.52	.05		.31		.25			T.		.90	.14			.17		.05	.18	.36	3.80
Clarksville	Miami					.19	.71	.13				.20	.34	.61			.83		.06				.40	.06			.34						3.87
Columbus (1)	Scioto			T.		.15	.01					.16	1.11	.38	T.	.57	.23		.01				.40	.02			.02	.02		.08	.18	T.	3.34
Columbus (2)	do					.11	.26					.18	1.09	.41	.02		.87		.02				.59	.02			.01	.04		.09	.71	T.	4.42
Columbus Reservr. (3)	do						.40						.50	.75			.90		T.				.57					.12		.20	.47		3.91
Coshocton	Muskingum												.30	.78			.78											.17		1.31	.81	4.15
Dayton (1)	Miami			T.		T.	.54	.14					.30	.89			1.23		.08	.22				1.24	.04			.08	T.	.04	.04	T.	4.84
Dayton (2)	do			T.			.52	.14					.29	.88			1.15			.26				1.20	.03			.03		T.	.01	T.	4.51
Delaware	Scioto			T.		T.						.06	.58	.11	.14		1.01		.02				.30	.10			.14	.02		.66		T.	3.14
Demos	Ohio											T.	.24	.71			.41		.03			T.	.13	.14				.13		1.19	.04	T.	3.02
Frankfort	Scioto					.15	.35					T.	.50	.53			1.00						.05	.15				T.		.35	T.		3.08
Garrettsville	Mahoning												.65	.14	.11	.95							.11	.20	.06			.05		.82			3.09
Granville	Muskingum			T.			T.					T.	.31	.89	T.		.92			T.				.32	.06			.37	T.	T.	.30	T.	3.17
Gratiot	do					T.						.10	.16	.70	T.		.58						.31	.13				.27		1.14	.15		3.54
Green	Ohio					T.	1.77	.10					.45			.05			.10				.45	.10						T.		.10	3.12
Greenhill	Muskingum	T.		T.			T.					.13	1.46	.27	.04	T.	.43		.30			T.	.10	.23		.10		T.	T.	.56	T.	T.	3.62
Greenville	Miami			.05		T.	.51	.16					.21	1.16			1.20		.38	.04				.88	.02			.04			.34			4.99
Hillsboro	Scioto					.06	1.03	.09				T.	.67	.65	T.	.11	.89		T.				.43	.06			.44		T.	1.06	.24	.05	5.78
Ironton	Ohio	.01					1.80	.09					.33	.40			.05							.15				.10				.34	3.27
Jacksonburg	Miami		T.					1.88				.39	.03	.88		.54			.12				1.03	T.			.10		T.	.21	T.	.15	5.33
Kenton	Scioto					T.						.17	.51	.03			.95						.16	.13									1.95
Killbuck	Muskingum											T.	1.40	.20		.61			T.			T.	.12	.06				T.		.80			3.19
Lancaster	Scioto			T.		.09	.08					.06	.69	.40	T.	T.	.96		T.				.28	.11			.35	.11	.01	.97	.15		4.26
Lawshe	Ohio						.96	.29						2.02					T.				.08				.20		.33	.05	1.00	4.93
McConnelsville	Muskingum					T.						.44	.64	.23			.04		T.				.16	.08			T.	.40		.44	T.		2.43
Marietta	Ohio						.09					.03	1.16	.64			.37							.11				.21		.44	.45		3.50
Marion	Scioto			T.								.12	1.08	.17			1.12						.10	.35				.40		.22		.06	3.62
Milfordton	Muskingum											.12	.96	.31	.13		1.50		T.				.05	.06						.48			3.61
Milligan	do					T.	.02					.13	.10	.54			.60						.65	.27						1.00	.17		3.48
Millport	Ohio						T.						.65	.90	.10		.60		.24				.11	.18	T.			.05		.53			3.36
Nellie	Muskingum												1.00	.30			.61						.08	.06						.38		T.	2.43
New Alexandria	Ohio	.60											.50	.40	T.		T.		.53				.80			T.			T.			T.	2.83
New Berlin	Muskingum											.03	.75	.14			1.50		.20				.08	.23		.04				.36		T.	3.33
New Richmond	Ohio					.22	1.22	.17				.09	.32	.86					T.				.01	.03			.50	.01			.72	.60	4.75
New Waterford	do	.10												1.33			1.08						.05		.15						.15	T.	2.86
North Lewisburg	Scioto																																
Orangeville	Mahoning																																
Pataskala	Scioto					.04	.03					.06	.77	.42	.03		.79		.01				.40	.22			.42	.05		.60	.59	T.	4.43
Philo (1)	Muskingum					T.						.09	.07	.46	.02		.68		.04				.48	.06				.43		.45	.57		3.35
Philo (2)	do											.27	.11	.63	T.		.88		T.				.38	.11	.02			.40		.30	.15		3.25
Plattsburg	Miami					.20	.10					.15	.95	.21			.86		.17				.83	.13			.87	.05		.43	.48	T.	5.43
Pomeroy	Ohio					.11	.34	.02				.05	.44	1.56			.31							.57	.02			.04		.26	.06	.24	4.02
Portsmouth	do		.20				.32	.80	.03				T.	1.20										.89	.05			.13			.05	T.	3.67
Rittman	Muskingum											.15	.38	.08		1.15			.30				.10	.23			T.		1.72		.04	4.15
Shenandoah	do	.05										.11	.45	.02		.41	.22						.24	.25				.02	T.	1.16		T.	2.93
Sidney	Miami			.14		.34	.12	.01				.09	1.70				.36		.17				.27	.36	.04		.05			.16			3.81
Somerset	Muskingum					.01	.08					.03	.28	.54	.02		.97	.02		.04				.22	.10			.96	T.		.67	.31	4.25
Springfield	Miami			.01		.20	.11	T.				.28	1.52	.19	T.		.99		.15				1.44	.21	T.		.23	.01		.62	1.30	.01	7.27
Summerfield	Ohio											.11	.78	.45			.69		.13				.61	.13				.39		.41	.08		3.78
Thurman	do					T.	.53	T.				T.	.20	1.20			.32							.50			T.	.10		.27	.12	.10	3.34
Urbana	Miami					.49	.16					.28	.90	.17			.65						.80	.08			.19			1.88	.50	T.	6.10
Warren	Mahoning											T.	.80	.04	.23	T.	1.06					T.	.29	.25	T.			T.		.84	T.		3.51
Waverly	Scioto						.54	.12				T.	.36	1.07	.06		.08							.06	.06			.49	T.	.42	.63	.10	3.99
Waynesville	Miami					.22	.55	.10				.18	.74	.35		.05	.68		.12				.31	.25			.20		.18	.02	.62	.03	4.60
Wooster	Muskingum	.05										.20	.51	.14	.02		.87		.01				.13	.18	T.			.24		1.70		T.	4.05
Youngstown	Mahoning												.40	.23	.15		1.06						.23		.43	.18		.02		.24			2.94
Zanesville	Muskingum						T.					.10	.16	.48	.02	.04	1.03			T.			T.	.18	.05			.03			.42	.02	2.53
Virginia.																																	
Big Stone Gap	Tennessee	.45		.25			.30	.50	.36				1.00				.25						.30	.20	.30			.20	.05	.12	.09		4.37
Blacksburg	Kanawha					T.	1.50	.20					.08										.23	.03				T.	.58	.82		.03	3.47
Burks Garden	Tennessee	.50					1.15	.77					.78				T.							.87				.58	.42	.12		.72	5.91
Elk Knob	do	.02		.11			.31	.26	.27	.01			1.40	.02			.16			.03			.09		.21			.21	.09	.01	T.		3.20
Galax	Kanawha	.10	.30				.48	.10					.32										T.	.33			1.03						2.66
Ivanho	do	.02	.01		.03		.02	.79	.54	T.	T.		.05	.15			.05							.33				.20	.22	.03	T.		2.44
Marion	Tennessee						.79	.65	.05				.69				.30			.21				.18				.17		.82	.10	.05	4.01
Max Meadows	Kanawha	.02		.05		.02	.61	.63	T.														.15	.12				.38	.02	.05		.12		
Mendota	Tennessee	1.40	.38					.80	.14	.46			.28	.84			.28							.06	.20				.10	.60		.10	.10	5.74
Radford	Kanawha	.52					.30	1.10	.60				.62	.22			1.04		.12					.34					.20		.60	1.16		6.82
Speers Ferry	Tennessee	.08	.12					1.02	.04	.48			1.20	1.30										.40	.12				.84	.16		.56	.04	6.36
Wytheville	Kanawha	.51		.01		.01	.61	.62		T.			.01	.17			.01						.15	.11				.38	.02	.06			2.67
North Carolina.																																	
Andrews	Tennessee																																
Asheville	do	.10		.74			.97	1.16	.31	.03			.21				.01						.25	.35			.24	.60	.02		.49	.06	5.54
Banners Elk	do	.15		.04			.36	.34	.21	.01	.01		.90				.12			.02			.20	.12	.10			1.16	.25			.19	4.18
Brevard	do	.44		.70			.60	.79	.60	.35		.60		.30	.76								.17	.24				.70		1.90	.06	.13	8.34
Bryson City	do	.56	.11					.69	.98	.97	.15			.99			.07							.91	.39				.11		.10		.15	6.18
Hendersonville	do	.20	.09	.50			.28	.60	.42	.19			.39	.30			.38						.02	.16			.42	1.02			.02	.05	5.04
Hot Springs	do	.80		.12			.45	1.75	.45				1.30	.15			.21						.21	.73			.22				.02		6.41
Jefferson	do																																
Marshall	do		.07	.25			.02	2.09	.48	.03			.43										.38	.66				1.30	.20				5.91
Murphy	do						T.	T.	1.22	.99	.40				.98						.36			.99				.22				.48	5.64
Rock House	do	.09	.01	.02		.01	.65	.20	.82	.48			.84	.47		.55							.33	.66			T.		T.	1.58	.03	.02	6.76
Sunburst	do		.27				.35		3.90				.10			.20							.76				.20	.57			.50		6.85
Waynesville	do		.15		.20			.82	1.30	.73					.15		.15							.77				.31	.20		.30		.75	6.03
Georgia.																																	
Diamond	Tennessee	.07		.03			T.	2.25	.39	.37			.19	.06									.18	.46			.70	.03		.12	T.		4.85
La Fayette	do		.01			.27		1.00	.91	.95			.15	.05		T.							.07	.84			.21				.08		4.54
Alabama.																																	
Albertville	Tennessee	T.				T.	1.41		1.70	.15	T.		.30									31		.46				T.			.20		4.53
Bridgeport	do		.32						.94	2.03							.40							.91							.03		4.63
Decatur	do		.36						1.22	.50	.02			.50		2.12							.07							T.	1.35	6.14
Florence	do						.60	.53					1.36										.26							1.32	.42	4.49
Guntersville	do						1.10		1.02	1.28	.02			.14										.12							.14	.86	4.68
Madison	do	.07						.18	.12	.05	T.		.26			1.10							.04							.06	.55		2.43
Riverton	do		.04						.94	.24				.98		T.															.38	2.58

TABLE 2.—*Daily precipitation for July, 1909. District No. 3*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Alabama—Cont'd.																																	
Scottsboro	Tennessee	T.				T.		.54	1.12	.43				.08	.42		T.					.41		.69						.75	.15		4.59
Tuscumbia	do	.22						.75	1.47						2.01		2.12				.03			.08							1.35	5.91
Tennessee.																																	
Ashwood	Tennessee						T.	.30	.40			.25		T.									T.				T.	.63					1.58
Benton	do	.19					T.	.70	.58	.07				T.	1.26		T.					.11	.43				T.				.27	.10	3.71
Bird's Bridge	do							1.12	.39	.35				.06	.47			.21					.59	.03						.12	.06	3.40
Bluff City	do	.16	.20					.40	.46	.58				.48	.98								.18					T.				3.44
Byrdstown	Cumberland	.05		.02			.16	1.70	1.86		T.			1.38	T.							.34	1.09			.52	.08	.03	T.	.74		7.97
Carthage	do	.16			.08				1.40	.80	.04				.10					.08		T.	.60				T.					3.36
Center Point	Tennessee								1.00	.20					.21								.49								.43	2.33
Cedar Hill	Cumberland	.90	.10					1.55	.60	.20		.40		10.		T.			T.													
Celina	do		.48					T.	2.00	2.05				T.	1.20								.80					.15		T.	.28	6.96
Charleston	Tennessee		.67						.90	1.05					1.98		T.	.10					.96				.13				.50	6.29
Chattanooga	do	.19				.54		.73	1.75	.09				.34			.06					.18	T.	.68			T.	T.		T.	.05	T.	4.61
Clarksville	Cumberland	.10						1.05	.40			.35											.65				.03	1.30			.35		4.26
Clinton	Tennessee	.30			.10	T.		.55	.95	2.10	T.	T.		.30	3.15		.35	.03					.25	.35				.40	.25	.10	.45	2.30	11.93
Dandridge	do	.02	.34				.02	1.56	.46	.86					.82		.30							.68				.30	.22			.01	5.59
Decatur	do	.21	.01				.30	.35	1.31	.05				.04	2.78		.48						.29	.85		.05	.05				.03	.69	7.49
Dickson	Cumberland	.52	.18				.13	.40	.65			.21		.39								.02		.40			.04	1.20					4.14
Dover	do	.29						.90	.26			.43				T.						T.	.15				.17	2.05			1.45	.15	5.85
Dunlap	Tennessee																																
Elizabethton	do			T.			.38	.50	.56					.15			.15							.55				.24	.05	T.	.05		2.63
Erasmus	Cumberland	.11					3.07	.38	.65	.21	.05	T.		1.75			.61						.53	.33			T.	.03	T.	T.	.30		8.02
Florence	do			.03			.09	.65	1.07	.05		T.		T.								T.	T.	.75				T.	T.		.04		2.68
Franklin	do	T.		T.				1.10	.74	.04	T.	.30		.09						T.		T.	T.	.20				.11			T.	T.	2.58
Hall's Hill	do				.38			1.32	1.55	.58					.54									.79							.10	5.26
Harriman	Tennessee	.02					.70	.35	1.72					.88			.61						.28				.13	.10		13	2.88	.04	7.84
Hohenwald	do	.10					.06	1.72	.42	.02		.60		.74								.04	.40	.44				.34					4.88
Iron City	do							1.24	.13					.65									.31					.06		T.	1.03		3.42
Johnsonville	do	.20		.10			.64	.74	.34			1.04				.02						.10	.19	.03			.24	1.32			.90	T.	5.86
Jonesboro	do						1.10	.32	.66					.47	.09		.30							.16			T.				.37		3.47
Kingston	do	.17	2.00		T.			1.08	1.03	.96				.11	.41		.05							.19				.11	.02			1.39	7.52
Knoxville	do	.43		.06			.60	.19	1.47				T.	2.58			.52						.47	.13			.28	.02		.11	.07	.08	7.01
Lebanon	Cumberland																																
Lewisburg	Tennessee				.04			.63	.45	.55		T.		.35	.38							T.	.07				T.	.03					2.50
Loudon	do	.25	1.25					2.60	1.30	1.80				T.	2.30		T.	.15						.50				.10	.20			.75	11.20
Lynnville	do	T.						1.45	.52	.20	T.			.49									.13	.08	22			T.	.10			.87	.40	4.46
McGhee	do		.70					.30	.80	1.20					.93		.20	.50						90				.20				1.00	6.73
McMinnville	Cumberland	.71					.03	1.93	1.53	.17	.01		T.	T.	.30		.07						.20	1.99			T.			.05	T.	T.	6.99
Maryville	Tennessee	.38		.68			.97	1.03	1.40	.15				1.67	.15		.11						.35	.92			.30	.06		T.	.01	.90	9.08
Mountain City	do	.34		.46			.88	.18	.12					.72										.86				.51			.24	.86	5.17
Nashville	Cumberland	.07						3.03	.49	.01	T.	.07		T.	T.							.05	.25				T.	.54	T.		T.	.42	4.93
Newport	Tennessee					T.	0.45	1.80	.45					1.30									T.	.50			T.		.60		.20		5.30
New River	Cumberland	.18	.10					1.29	1.85	1.28					.72									1.67				.11	.28			1.71	9.19
Palmetto	Tennessee	.22		T.				1.17	.42	.03				.45	.20		.07					.16	.45					T.	T.		.05		3.22
Pinewood	do																																
Pope	do	.70					.30	.35	.75																		T.						2.10
Rogersville	do	T.	T.		.08			.80	1.90	.34				.06	1.00		.06	.02					.04	.42				.42	.12	.02	.10	.14	5.52
Rugby	Cumberland	.06					.50	.35	1.50		T.			1.33		.45							.03	.41			T.	.25			.38	.95	6.21
Savannah	Tennessee																																
Sevierville	do	.09					.23	.46	1.04	.01				.97	.09		.65						.51				1.42	.15	.05		.25		5.92
Sewanee	do	.06						**	**	1.89												.45	.31									2.71
Sparta	Cumberland	1.40						.71	1.46			T.		.33								T.	.60	.48		T.		T.	T.	T.	T.		4.98
Springdale	Tennessee																																
Springville	do	.65	.02					1.10	.60	.01		.78				.06				T.		.20		.09			.39	1.21			.09	.33	5.53
Tazewell	do	.80	.05					3.03	.30	.80					1.65									.55				.10	.32		.25	.35	8.20
Tellico Plains	do																																
Tullahoma	do	.07						.53	.78	.20	T.			.26	.40		.10							T.						.06			2.40
Walling	Cumberland	.10	.09						1.05	.80		.03	.03	.01	2.30					T.				1.04								.02	5.47
Worsham	do	.20						2.00	.84			.04											.19				.41	.44			.33	.02	4.47
Waynesboro	Tennessee	.10						.73	.16		.04	.48		.60								T.	.82	.01			.05	.15			.02	T.	3.16
Wildersville	do	1.44					.01	1.10	1.02																							.69	4.26
Yukon	do	T.						.52	1.18	.05					.40	.06		.41					T.			T.			1.16	.78	T.	4.56
Kentucky.																																	
Alpha	Cumberland	.20		T.		T.		.55	1.05		T.	T.	T.	.92								.80				.15	T.	.10		.15		3.92
Anchorage	Ohio	.03	1.73	.33	T.	.02		.43	.73	.76				.08		.10				.08		.16	.18	T.		.55	.05					5.23
Bardstown	Green	2.24					.10	1.03	.13	.29		.05	.35	1.02	T.		1.50			.65				.39				.16	.60	T.	.22	1.01	9.74
Beattyville	Kentucky		.12				.28	2.34		.94					.84	.44				.08				.86				.22	.10				6.22
Beaverdam	Green	.43						.86	2.00	.49		T.	.23	.98		T.	.44		T.	T.				.60				.10				.20	6.33
Berea	Kentucky	T.					1.53	1.00		.30				.58			T.	.05						.82			.80	.33			.28		5.69
Bowling Green	Green	.10	.20					T.	3.00	1.26			.10		.40		.38			.12		T.	.78					.15	.05		.60	.05	7.19
Burnside	Cumberland	.12	.08					1.94	.20	1.34		T.	T.	.28	.46					.08		.60						.06	.02		.10	.06	5.34
Cadiz	do	.37					T.	1.37	.36	T.		.32										.04					.36	1.56			1.00	.13	5.51
Calhoun	Green	.01				T.	1.13	2.27	2.28	.05		.86	T.	1.93		T.	.05		.14			.18	.06	T.		.19							9.15
Catlettsburg	Big Sandy						.76	1.02	.04						1.52	.10	.02						.22	.06			.12	.04		.40		4.36
Earlington	Green								1.79	.10	T.		.56	.15			.08			T.			.04					.24			.99	3.95
Edmonton	do	.03	.05				.05	.58	2.83	.10				1.00				.03					.75			.01	T.	.30		.30	.20	6.23
Eubank	Cumberland	.06	.26					.74	.02	.88				.02		.36	T.				.13		1.45					.05	.24		.23	.18	4.62
Falmouth	Licking						1.26	.20	.14					.10	1.90						.20							.30	.10		.68	.25	5.13
Farmers	do	.34				.05	2.09	.37	.01		.06	T.	.95	.36			.41		.31			.20	.62				.05	.86		.15		.76	7.59
Frankfort	Kentucky	.04				1.71	1.09	.07	T.				.24	1.62				1.73					.22				.19		.05	.03	.03	7.02
Franklin	Green	.12						.56	1.29	.04		.03										T.	.20	1.00			T.	.50				1.50	5.24
Greensburg	do	.40	.52	.02				.82	.83	.95	.01			.24	1.20	.10	.04							.25						.32	.35	1.40	.50	7.95
Highbridge	Kentucky	.09	.43				.59	.98		.10	.10			.06	1.04		.53							.33				.15	.02	.07	.08	.60	5.17
Hopkinsville	Cumberland	.15							2.10	.10				.25									.07	.55			1.30		.50		.90		5.92
Irvington	Ohio						.93	.40	.12			.95	.60	1.10		T.	.25		.56								.05		.09			1.26	6.31
Leitchfield	Green						1.75	1.31	1.45			.45	.75	.50		.15			T.				.67				.06		.03	.27		.38	7.77
Lexington	Kentucky	.02				.08	2.03	.42	.03			.06	.51	.19	.01	.15	.23		T.				.67	.01			.17	.15		.17	.37	.71	5.98
Loretto	Salt	T.				T.	1.00	.08	.41		T.	.30	T.	1.09	T.		.27		.28				.28				.07		1.84		.90	T.	6.52
Louisville	Ohio					.02	1.33	2.34	T.	T.		.41	.24	.80		.66			T.				T.				.04	.09	T.	.02	1.25	.03	7.23
Marion	do								1.18			.36		.25									T.				.75			.22	T.	2.76
Maysville	do						.86	.57	.12					.02	1.36	.03		.04		T.				.32	.10			.08	.25			.32	4.07
Middlesboro	Cumberland	.03					.52	1.20	.56						2.17			.05					.49					.15	.09				5.26
Mt. Sterling	Licking	T.				T.	2.30	1.95	.40	.10		.11	.12	1.08			.45							.34	T.			.40	.08	T.	T.	T.	7.33
Owensboro	Ohio	.34						.40	1.63	.65		.60	.97	1.90		T.	.67			.10								.26				.18	7.70
Owenton	Kentucky						2.25	.57				.24	.70	2.63		.07							T.				.23	.43			1.10	1.72	9.94
Paducah	Ohio	.20						.19	.95					.15										.15				2.00	1.90			1.05	6.59
Pikeville	Big Sandy	.74	.22				.46	.60	T.						2.50	.04		.02	T.		T.			.40	.20			.20	.08		.50		5.96
Richmond	Kentucky	.08	T.				.23	1.71	.08	.33		T.		.70	.13		.55			.03				.19				.17	.06			.26	4.52
St. John	Salt						.02	1.16	.62	.26		.05	.28	.66	.08		1.02							.63				.05	.04		.46	.32	5.65
Scott	Licking																																
Shelby City	Kentucky	.30					.76	.21	.72	T.		T.	T.	.45	T.					T.			.25	.41			T.	.22	.03		1.10		4.45
Shelbyville	Salt		T.				.62	1.42	.31	T.		.18	.12											.06				.06		.90	.22		3.89
Taylorsville	do					T.	1.07	1.96	.04		T.	.55	.32	.34			.11		T.			.07	.58				.34	.05		.11	.06	5.60
Williamsburg	Cumberland	.95	.60					1.70	T.	.60				.15	1.20					T.		T.	.20					T.				5.40

TABLE 2.—*Daily precipitation for July, 1909. District No. 3*—Continued.

Stations.	River basins.	Day of month.																															Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kentucky—Cont'd.																																	
Williamstown	Licking						.90	.56	.08				.14	2.01			.04			.10								.09	.67		.83	.17	5.59
Indiana.																																	
Anderson	West Fork, White			.32		.66	.48	.23				.30	1.39	.11			.16		.51				.02				T.	T.		.74	.05	.12	5.09
Bloomington‖	do						1.68	.86	.03			.33	1.25	1.20	T.		.06			.04							.15			.88	.09	6.73
Bluffton	Wabash						.05					.10	.40				.01		.30					.04					.15		.01	1.06
Butlerville	Muscatatuck					.36	1.06	1.03				.73	.65	.69									.07				.02	.17			.37	1.24	6.39
Cambridge City‖	Whitewater			.02			1.21	.39	.04				.18	.66			1.32		.08	.32					.45	.02		.01			.95	.02	5.67
Columbus‖	East Fork, White						.92	.36	.02			.20	.13	.73			.01		.08					.03				.13		.54			3.15
Connersville	Whitewater			T.		.55	.70	.17				.22	.80	.12	T.		.18		.36				.37	T.			T.		.74	.50	T.	.02	4.73
Delphi‖	Wabash			.06		T.	.57	.37				.04	.18	2.00			.02		.61					.02				.02	.13	T.	.90	T.	4.92
Eminence	West Fork, White					.60		.20				1.10	1.30				T.		.35				.55				T.			.95		.24	5.29
Evansville	Ohio					T.	T.	.44	.32	T.	T.	1.96	.56	1.54	T.	.54			.12				T.				.25				T.		5.73
Farmersburg	Wabash					1.00	1.91	1.11				1.13	.89	.72					T.				.16				.05	.70		T.	.39	8.06
Farmland‖	West Fork, White			.27		.02	.58	.28					.43	1.18			1.69		.48					.86			T.			.12		5.91
Greenfield	East Fork, White			T.		.40	.57	.13				1.00	2.02	.09	T.		.25		.27				.40				T.	T.		.10	.41	.12	5.76
Greensburg	do					.65	.81	.32				.40	.50	.51			T.		T.				.07				.04	.05			.20	1.15	4.70
Heltonville	do					1.58	.84	.40					.54	1.50				.05						.30				.36	.04		.71		6.32
Huntingburg	Patoka					.12	.19	1.08				.95	.20	4.55																		.67	7.76
Huntington	Wabash			.74		.41	.08	.03				.04	.85		.04	T.	T.		.38				T.	.02					.15		.08	2.82
Indianapolis	West Fork, White		.05		T.	.88	.63	.03				.98	1.54	.01		.04			.11				.09				.01		.79		.26	5.42
Jeffersonville	Ohio					.02	1.85	1.21				.46	.28	.71		.84	.08		T.				.03	T.			.03	.08	.03	.02	.68	.11	6.44
Judyville	Wabash					.86	.45	.71				.20	1.01	.14		T.			.06				T.				T.		.01	.17		.11	3.72
Kokomo	do					.50	.40					.36	.81	.06		.20	1.11		.50				.14					T.	T.	1.46		.30	5.84
Lafayette‖	do		T.			.03	.93	.71				T.	.39	.85			T.		.74	T.			T.	T.				T.			.15	T.	3.80
Logansport‖	do			.21		.04	.51	.22					.38	1.32			.65		.56											2.10		5.99
Madison	Ohio					.28	1.00	.28				.65	1.33	2.73			.72						.03					.54			.50	1.31	9.37
Marengo[b]	Big Blue						1.72	1.03				.83	.44	.48		.71											.07	.06	.08	.13			5.57
Marion	Mississinewa			.64			.57	.09					.34	.53		**	2.43		.36					.07							.36		5.39
Markle	Wabash			.60		.40	T.					.20	.70			T.			.20										.10		.20	2.40
Mauzy	East Fork, White			T.		.69	.75	.16				.22	.91	.08			.01		.56				.34				T.	.01	.34	.32	.26	.10	4.75
Moores Hill	Ohio					.34	1.11	.06				.43	.67	.67					.05				T.				.03	.12			.18	.68	4.34
Mt. Vernon‖	do							.25	.58	.02		4.34		2.90			1.70			.24							T.	.22				T.	10.25
Paoli	East Fork, White					.23	1.27	1.01		.01		1.22	1.12	1.21			.61						T.				.04	.80			.38	.90	8.80
Princeton	Patoka					.10		.75				.93	1.28				1.10		.25								.25				.10		4.76
Richmond	Whitewater		.04			.70	.17	.33				.29	.82	.05		1.02			.20				1.19	.03			T.	.02	.11	.20	.66	.01	5.84
Rochester	Tippecanoe					.70	.11					.03	.70	.01		T.							.06	.02						.24		.01	1.88
Rockville	Wabash					1.48	1.45	.28				.65	.84			.68			.09				T.				T.	.13		.40		.89	6.89
Rome	Ohio						.23	1.05	.11	T.		.87	.29	1.03		.02	.12		.07	T.							.13		T.			1.96	5.88
Salamonia	Salamonia			.52		.46	.07	T.				.18	.72				.71		.33				.14	.03						.05	.01	.09	3.33
Salem	Big Blue					.15	1.95	.80	T.	T.		1.19	1.24	2.00			.78							.05			.10	.55	.02		.13	.35	9.31
Scottsburg	Muscatatuck					.26	2.89	.74				1.14	1.40	2.02			.23		.10				T.				T.	.43	.66		.23	.39	10.49
Seymour	East Fork, White					.40	1.13	.59				.82	.50	.55	.04	.02			.01				.07	T.			T.	.20		.42		.06	4.81
Shelbyville	do			T.		.59	1.27	.04				.34	.70	.19	T.		.01		.35				.12				T.	.04		.90	.05	.49	5.29
Terre Haute	Wabash					.65	.83	.46				1.04	.22	.88					.01				.06				.04	.36					4.55
Veedersburg	do					1.08	.77	.10				.22	.82	.10		.04			.31				.04				T.	T.			.20	.16	3.84
Vevay	Ohio					**	1.40	.90				.20	.80	3.00		T.			T.				T.				.10	.50			.10	.40	7.40
Vincennes‖	Wabash						.80	1.05	.25			1.10		1.30			T.			.45				T.			T.	.40			.10	.40	5.85
Washington‖	West Fork, White						.53	1.60	.20			1.32		1.14			T.		.06								T.	.24			.40	.05	5.54
Whitestown	do			.14		1.17	.61	.25				.13	1.03			.07	.38		.25				.17				.01	.02		1.33		.32	5.88
Winona Lake	Tippecanoe			.51		.24	T.	.01				T.	1.74		.05	T.	T.		.45				.23	.12					.18	T.			3.53
Worthington	West Fork, White					.62	1.00	.67				1.43	1.02	.50		.22			T.				T.				.15	.32	.02		.10	1.56	7.61
Illinois.																																	
Albion	Wabash							.51	.75				.40	1.06		1.60											.55				.06	4.93
Charleston	do					1.27	2.72	.46				.54	1.26			2.34			.02								.25	.10			.09	9.05
Equality	Ohio	T.					T.	1.13	1.58		T.	2.25	.13	2.40	.03	T.	.28		T.			T.	T.				.37			.01	.01	8.19
Fairfield	Wabash						.03	.34	.17	.17		.58	.93	.92		1.43											.73	.05					5.35
Flora	do					.40	.76	.46	.30		T.	.45	1.15	.30	T.	1.30	.43		.06								.73				.03	.20	6.57
Golconda	Ohio							.63	.56			.47	.24	.07									.20				.43	1.34			.15	4.09
Hoopeston	Wabash				.05		.84	.40	.36			1.68	1.71	.01					.17				.04			.24	.02			.38		.17	6.07
McLeansboro	do							.58	1.05	.02		1.63		2.45		.03	T.		T.					T.			T.	.58					6.34
Martinsville	do						1.35	2.50	1.47			1.40	.80			.05			.30				.10				.15	1.03	.15		.13		9.43
Mt. Carmel	do							.04	.34	.38		.64	.06	1.16			1.36										T.	.46				.10	4.54
New Burnside	Ohio							.29	1.02		.14	.12	.21												.53			T.	.97	T.				3.28
Olney	Wabash					.61	.10	.75			T.	.36	.52		T.	1.46			.69				T.			.47					T.	.07	5.03
Palestine	do				1.10	2.61							.50	.31					.05								.32	.30			.05		5.24
Paris	do						1.80	.40	T.			.55	.38	.62			.95			.11							.07	.08					4.96
Philo	do					1.65	.90	.62				4.08	.62						.08				T.				.13				.08	8.16
Rantoul	do				T.	T.	1.58	.37	.13			.23	.32	.29					.13				T.				.08	.14		T.		T.	3.27
Robinson	do					3.80	.32				.56	.29	.62		.51				.52				T.			.41	T.			.22	.03	.76	8.04
Sumner	do					.49	.21	.62				.63	.36						.86								.39						3.56
Tuscola	do																																
Urbana	do					.99	2.16	.46				1.86	1.82	.02					.09				T.				.05	.12				T.	7.57

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 3, Ohio Valley.*

Date.	Pennsylvania.				West Virginia.														Ohio.							
	Greenville.		Pittsburg.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.		Morgantown.		Parkersburg.		Wheeling.		Canton.§§		Cincinnati.		Columbus.		Dayton.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	88	53	88	63	90	70	87	63	86	62	93	67	91	70	88	63	89	70	96	59	87	58	92	70	88	66	93	62
2...	83	51	82	61	86	65	87	60	82	61	91	64	91	66	83	60	87	68	89	61	82	59	90	71	88	66	90	64
3...	72	54	75	56	89	67	81	60	76	56	85	65	80	70	79	63	77	59	79	62	69	58	78	62	76	58	78	64
4...	71	41	70	50	88	52	81	58	67	47	79	46	76	51	68	46	70	53	79	43	69	47	75	58	72	54	79	50
5...	80	42	76	53	73	64	78	47	76	50	80	53	75	58	78	53	74	60	82	50	75	49	73	58	68	54	67	62
6...	82	45	82	61	70	61	71	53	72	55	77	60	69	61	74	60	75	58	82	52	80	60	67	58	75	55	68	55
7...	80	48	80	64	82	65	71	61	78	56	86	64	82	62	79	59	82	66	87	56	79	56	80	63	82	63	84	58
8...	84	43	82	58	86	67	73	55	84	47	90	52	88	60	83	56	83	59	88	52	81	53	83	64	83	59	85	57
9...	88	48	86	58	85	60	73	51	81	52	92	56	87	61	85	56	86	60	91	52	84	55	86	65	86	64	87	60
10...	88	57	86	68	87	62	78	53	85	51	91	56	90	64	85	61	85	65	93	55	55	61	87	68	87	66	86	63
11...	87	64	84	70	89	69	84	56	85	58	89	64	88	70	86	67	83	71	83	62	81	68	79	69	80	68	78	69
12...	88	68	84	67	90	70	86	59	80	68	88	68	94	74	81	68	87	68	90	69	86	69	88	68	87	64	85	68
13...	83	68	81	68	89	68	87	67	80	63	85	65	83	69	79	65	82	68	86	68	81	66	85	68	84	67	85	66
14...	83	60	84	68	87	70	86	59	83	63	89	65	91	70	85	63	86	67	91	64	83	63	86	68	86	67	87	65
15...	89	60	85	70	87	69	85	63	84	62	90	66	90	67	85	69	88	69	91	65	84	65	88	69	87	64	88	65
16...	83	66	79	65	86	70	86	66	81	60	86	65	88	68	81	62	83	64	87	64	80	62	83	69	82	64	84	66
17...	77	57	76	64	84	59	85	60	78	58	85	60	84	62	79	52	79	64	85	58	74	60	83	66	78	61	83	59
18...	79	51	75	59	84	56	80	58	77	53	84	57	84	60	79	56	81	57	82	55	75	56	82	64	80	60	83	60
19...	74	44	72	52	78	54	77	50	70	45	79	49	78	52	72	47	73	53	80	47	71	48	77	58	75	55	78	52
20...	80	42	77	52	82	56	78	45	75	44	82	48	81	53	75	46	77	51	86	47	77	47	80	58	78	56	82	51
21...	78	52	76	60	83	55	82	49	79	47	85	54	88	55	79	53	84	56	85	50	79	59	87	64	83	65	85	57
22...	90	55	86	63	86	60	83	53	85	51	91	56	92	59	88	57	90	58	93	51	86	59	91	69	87	63	91	61
23...	80	61	71	58	82	64	83	64	72	58	86	63	72	67	78	62	73	62	71	60	66	62	76	64	68	60	70	63
24...	78	50	73	55	76	60	75	55	71	54	79	53	81	60	73	55	76	58	77	53	74	53	79	56	77	57	80	51
25...	85	49	80	58	85	56	81	54	78	51	85	55	85	55	79	57	83	58	88	55	78	53	82	60	81	58	83	52
26...	88	45	83	60	85	58	82	48	83	50	87	55	85	58	84	55	83	58	87	55	81	55	78	65	82	62	78	60
27...	87	66	81	66	83	65	78	61	79	59	83	53	85	65	79	72	81	64	85	59	78	64	80	65	80	63	77	64
28...	90	56	85	69	87	66	83	63	86	58	91	54	90	65	87	69	89	66	94	60	84	64	89	67	88	66	89	63
29...	88	67	82	72	90	70	85	61	84	62	91	67	94	70	92	69	90	70	80	65	84	71	94	73	91	70	94	75
30...	80	70	84	72	90	70	86	66	86	67	93	68	92	71	88	69	90	68	93	69	83	68	92	72	91	67	94	69
31...	86	69	85	65	90	68	86	67	86	65	90	67	91	71	84	66	84	68	91	66	81	61	84	68	82	68	82	68
Mns	82.9	54.9	80.3	62.1	84.8	63.4	81.2	57.6	79.6	55.9	86.5	59.2	85.3	63.4	81.1	59.9	82.3	62.5	86.2	57.5	79.3	59.0	83.0	65.1	81.7	62.3	83.0	61.3

Date.	Ohio.				Virginia.				Asheville, N. C.		Decatur, Ala.§§		Tennessee.														Bentyville, Ky.	
	Marion.		Waverly.§§		Big Stone Gap.		Wytheville.						Chattanooga.		Jonesboro.		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynesboro.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	91	57	93	68	85	67	84	66	82	67	90	70	88	72	88	69	84	71	85	72	88	71	88	70	87	73	94	66
2...	89	59	91	65	86	67	86	63	86	65	91	70	90	69	90	66	89	70	93	69	91	70	89	64	90	66	92	64
3...	80	59	79	68	85	64	80	61	86	62	93	71	92	72	88	63	92	70	93	72	92	69	91	69	92	67	86	65
4...	80	48	76	49	78	55	71	52	76	60	85	72	81	67	79	53	78	62	82	66	81	63	82	61	81	68	78	49
5...	74	57	70	59	80	52	76	50	77	60	95	63	87	63	80	56	85	60	89	62	90	60	90	57	91	58	82	50
6...	85	57	70	57	76	70	72	63	78	65	95	71	90	73	77	65	82	70	93	76	92	80	88	60	92	75	82	57
7...	88	55	84	59	78	69	67	56	80	62	96	71	90	72	80	66	81	70	89	70	92	70	87	72	92	74	78	66
8...	91	51	86	55	75	65	70	53	63	56	94	71	72	63	69	62	73	63	78	72	80	72	76	68	81	70	73	64
9...	93	54	87	62	77	63	70	55	65	56	80	74	75	63	78	60	78	63	76	68	77	69	80	66	83	71	83	64
10...	89	60	89	62	80	60	75	52	72	59	80	70	80	66	78	59	82	66	78	69	80	72	86	68	79	68	88	62
11...	83	66	83	72	85	67	82	55	80	55	88	68	83	66	87	63	84	65	82	70	85	68	82	63	86	71	85	65
12...	91	66	87	73	82	62	83	60	87	60	95	73	87	68	88	66	88	69	89	74	89	72	89	67	91	73	93	67
13...	87	65	86	68	83	67	80	64	81	66	96	75	92	69	82	65	88	68	90	74	92	71	90	71	93	73	84	67
14...	88	63	88	63	80	65	82	62	83	63	88	70	86	68	85	63	85	67	89	70	89	68	87	66	87	71	87	64
15...	90	64	89	64	83	62	83	59	87	60	90	70	89	69	89	60	88	67	90	71	88	70	91	65	89	68	91	64
16...	83	62	86	63	84	66	79	61	81	64	89	70	89	73	84	66	85	69	87	72	88	69	87	67	86	69	87	66
17...	83	57	85	59	81	60	78	58	80	62	85	69	87	70	84	62	85	67	86	67	85	62	84	64	83	60	86	60
18...	82	52	83	56	81	58	79	54	79	58	88	64	88	65	82	57	85	64	88	64	87	60	85	61	86	59	86	60
19...	88	47	79	49	76	62	72	52	77	57	89	66	86	67	79	62	81	63	84	66	85	67	83	65	86	65	79	52
20...	87	48	82	48	77	50	77	46	79	52	88	60	83	63	82	48	82	60	84	60	85	55	86	55	85	53	81	48
21...	88	61	88	58	81	52	81	47	81	55	93	68	88	64	84	53	86	61	91	63	89	65	90	74	91	64	87	50
22...	87	62	93	57	82	58	80	53	82	56	94	68	90	68	86	57	85	70	88	69	87	70	90	59	90	67	93	53
23...	73	59	68	63	78	58	75	62	76	64	87	73	82	69	87	59	81	68	79	68	82	68	80	67	81	69	79	60
24...	81	55	81	54	75	57	73	54	76	58	83	68	82	64	80	57	81	63	81	62	82	56	82	70	81	55	82	56
25...	85	50	85	53	78	54	79	49	79	54	86	55	83	60	83	53	83	59	83	58	83	53	84	61	81	53	85	53
26...	83	56	82	55	78	57	80	52	74	57	89	67	83	65	82	56	84	65	81	64	84	62	85	54	84	56	84	57
27...	88	62	83	59	80	64	78	61	81	64	90	69	85	67	84	64	82	67	85	68	85	69	84	66	85	68	85	63
28...	89	62	92	65	80	66	80	62	81	65	93	78	90	68	83	65	87	68	92	75	90	71	91	67	93	70	90	64
29...	92	74	93	68	84	66	84	62	86	62	97	72	93	70	89	62	90	69	92	73	95	72	90	66	95	70	95	65
30...	91	67	92	68	80	70	85	68	85	66	93	70	86	72	87	68	83	71	92	73	88	70	85	72	93	71	80	68
31...	84	62	89	67	79	65	83	65	81	66	87	67	88	70	83	65	84	70	88	72	85	67	88	67	90	69	91	70
Mns	85.9	58.6	84.5	6.08	80.2	61.9	78.2	57.3	79.4	6.05	89.9	69.1	86.0	67.6	83.1	61.0	83.9	66.3	86.4	68.7	86.6	67.1	86.1	65.2	87.2	66.6	85.4	60.6

TABLE 3.—*Maximum and minimum temperature at selected stations, July, 1909. District No. 3*—Continued.

Date.	Kentucky.														Indiana.												Philo, Ill.	
	Bowling Green. ‡‡		Earlington. ‡‡		Greensburg. ‡‡		Lexington.		Louisville.		Maysville. ‡‡		Williamsburg. ‡‡		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	96	70	92	66	91	67	88	68	92	72	94	67	87	70	92	65	91	73	90	66	89	59	88	63	91	65	89	58
2...	96	67	97	61	91	64	88	70	93	72	93	64	90	66	92	66	95	73	88	67	89	59	88	65	91	70	92	63
3...	95	69	93	66	90	67	80	60	82	66	83	64	88	67	80	65	84	67	74	59	87	63	79	63	87	71	77	59
4...	87	58	85	55	76	49	72	55	78	59	79	49	76	56	78	50	80	59	76	55	82	50	76	53	79	54	77	49
5...	94	57	91	55	87	54	77	59	79	62	79	56	85	55	70	59	82	62	68	57	75	57	75	53	74	61	66	58
6...	95	72	95	62	85	60	81	62	82	64	68	59	86	60	70	58	91	73	66	57	68	55	70	58	77	62	69	59
7...	87	73	89	63	78	70	74	66	76	66	82	59	87	70	78	62	78	70	79	61	88	60	76	62	76	64	73	63
8...	83	70	78	66	75	68	73	65	79	69	84	57	75	69	84	62	81	69	84	63	80	55	83	63	84	66	82	60
9...	80	67	79	67	80	65	78	65	80	68	89	59	81	62	86	62	79	69	85	64	86	56	84	62	84	64	87	60
10...	80	65	81	64	78	65	82	69	82	69	91	59	81	64	84	67	77	69	82	68	85	63	80	66	81	67	83	65
11...	85	68	83	62	80	66	80	70	81	69	85	65	84	65	78	64	81	69	77	68	79	67	80	65	80	70	81	66
12...	95	70	93	69	89	67	88	68	89	72	93	73	90	68	88	69	88	68	84	66	87	67	84	65	87	69	86	63
13...	91	70	90	66	85	66	82	68	87	69	88	66	85	72	88	65	88	67	85	67	84	60	84	65	85	68	85	62
14...	90	65	90	60	88	68	83	67	88	71	89	62	85	65	85	67	87	73	83	68	83	62	82	65	85	65	84	61
15...	94	69	92	65	89	61	86	66	90	65	91	65	90	66	88	66	88	69	85	71	86	64	85	66	87	67	87	61
16...	90	68	89	66	85	65	81	68	85	69	87	65	88	70	83	67	84	68	82	66	80	59	80	61	83	64	82	58
17...	92	62	90	57	85	58	81	64	86	67	86	58	90	63	84	60	86	68	82	64	81	58	81	62	84	61	86	58
18...	92	61	92	56	85	60	81	65	86	67	83	56	87	64	84	63	86	69	81	61	78	62	80	65	83	65	82	64
19...	81	62	85	59	79	58	74	59	80	61	82	50	80	62	79	53	79	61	77	56	77	49	76	53	79	54	78	49
20...	88	54	88	50	85	50	76	57	82	62	84	51	81	53	82	53	81	61	80	60	80	49	78	57	79	55	81	55
21...	96	56	95	53	90	52	86	61	90	63	91	54	87	56	86	56	89	61	84	62	80	54	83	58	85	55	86	53
22...	92	70	97	59	90	59	89	68	94	73	95	56	90	60	90	69	90	71	84	68	83	63	83	68	88	69	84	62
23...	84	64	84	62	80	63	75	62	82	68	70	64	80	67	79	63	81	66	77	59	81	61	78	62	80	63	81	59
24...	85	57	86	53	80	52	74	55	80	60	82	53	83	69	80	50	80	63	78	55	78	50	78	52	80	52	81	51
25...	89	55	89	49	83	42	79	59	84	61	87	52	84	56	84	53	82	61	82	60	82	51	82	57	83	55	85	52
26...	78	62	74	61	77	55	76	64	76	66	84	56	79	61	74	63	73	66	73	65	75	58	73	64	79	65	70	63
27...	86	65	90	62	72	62	80	63	84	65	85	58	85	65	82	62	82	67	76	62	80	63	77	62	79	63	78	62
28...	96	68	96	66	85	67	84	68	92	72	92	63	85	70	92	65	91	74	90	70	91	66	89	72	90	73	92	72
29...	98	72	97	66	93	66	88	71	96	73	95	65	95	69	94	74	93	75	91	67	88	69	92	71	92	77	95	75
30...	96	69	98	72	90	66	87	69	94	66	93	69	91	71	93	68	93	73	92	69	87	67	90	70	94	71	92	71
31...	92	70	89	63	89	67	84	67	88	71	93	67	90	70	87	69	87	72	77	69	76	66	80	70	81	71	78	68
Mns	89.8	65.3	89.3	61.3	84.2	61.3	80.9	64.5	85.1	67.0	86.4	60.0	85.3	64.5	83.7	62.4	84.8	68.0	81.0	63.5	82.1	59.4	81.1	62.5	83.5	64.4	82.2	60.6

Climatological Data for July, 1909.

DISTRICT No. 4, LAKE REGION.

Prof. HENRY J. COX, District Editor.

TEMPERATURE.

The mean temperature for the month was below the normal generally throughout the district, except in the northern portions of both the upper and the lower peninsulas of Michigan and the Wisconsin shores of Lakes Superior and Michigan. In these sections the mean temperature was slightly above the normal. The deficiency was greatest in the extreme southwestern portion of Lower Michigan, northeastern Indiana, and in the region of the lower Lakes. The departures reached −5.3° at South Haven Mich., −5.3° at Auburn, Ind., −4.5° at Hudson, 0., and −4.5° at Canton, N. Y.

A cool wave advanced across the district from the 2d to the 10th, and during its passage minimum temperatures considerably lower than 50° were recorded in nearly all sections. On the 9th, temperature in parts of the Adirondack region fell to the freezing point or below, the lowest reading being 30° at Gabriels, Franklin County, N. Y. A second cool wave crossed the district from the 16th to 25th, but temperature generally was not as low as during the preceding cool period.

Between these cool periods was a season of warm weather, during which the highest temperature readings of the month east of the 85th meridian were recorded on the 12th to 15th, inclusive. The highest temperature readings of the month over the western portions of the district occurred on the 28th and 29th, and the month closed with temperature in all sections generally above the seasonal average.

PRECIPITATION.

The precipitation was very unevenly distributed. It was above the normal amount for the month over the southeastern portion of the lower peninsula of Michigan and the southern shore of Lake Ontario, and was exceptionally heavy over the region of western Lake Superior. Elsewhere, except over very limited areas, the rainfall was deficient. Along the western shore of Lower Michigan, in the greater portion of the Fox River Valley of Wisconsin, the Miami River Valley of Ohio, and the interior portions of New York State the lack of rainfall was such as to retard the growth of crops and injure the pastures. In the last-named section the deficiency caused a serious reduction of the water supply for many cities and towns, and even for stock on farms.

The greatest monthly precipitation occurring at any station in the district was 15.45 inches at Ironwood, Mich., and the least, 0.25 inch at Manistee, Mich.

Four rainy periods—1st–4th, 9–16th, 19–24th, 28th–31st—were quite well marked over the western portions of the district, but in the eastern sections the rainfall was more evenly distributed throughout the month. Very heavy rains which resulted in destructive floods occurred in the region of western Lake Superior on the 20th to 22d, and heavy twenty-four hour falls were recorded as follows: Duluth, Minn., 5.35 inches; Herbster, Wis., 5.20 inches; Thomaston, Mich., 5.50 inches; Ironwood, Mich., 6.72 inches on the 21st and 5.00 inches on the 22d. The amount measured at Ironwood on the 21st is the greatest twenty-four hour rainfall recorded in Michigan during the past twenty-three years.

A number of thunderstorms, accompanied in localities by hail and high winds, occurred over the Indiana and Ohio portions of the district from the 12th to 15th, doing considerable damage to crops and trees, buildings, and telephone and telegraph wires. Hail fell generally over Ohio on the 15th, and on this date at Lima unusually large hailstones damaged windows and tender crops. Damaging thunderstorms and high winds were also reported from Fulton, Lake, Sandusky, and Seneca counties in Ohio, on the 29th. Over the portions of the district farther east, however, only a few heavy thunderstorms occurred during the month, and the damage from high winds was not great.

TABLE 1.—*Climatological data for July, 1909. District No. 4, Lake Region.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Minnesota.																			
Duluth	St. Louis	1,133	38	64.0	− 1.7	84	28	46	3	29	10.83	+ 6.94	5.35	0.0	11	15	7	9	ne.	U. S. Weather Bureau.
Floodwood[e]	do	1,257	5					42[d]	17†		5.43		1.60	0.0	11	13	13	2	w.	M. H. Schussler.
Mountain Iron	do	1,510	15	66.4	+ 2.0	88	1	42	5	40	5.17	+ 1.33	1.80	0.0	16	11	6	14	sw.	Oliver Iron Mining Co.
Stephens Mine	do		2	64.4		87	6	38	3	43	5.86		1.84	0.0	11	12	9	10	sw.	Do.
Two Harbors	Lake	692	15	62.6	− 0.8	88	9	42	3	40	9.12	+ 5.18	4.20	0.0	10	6	17	8	ne.	Geo. W. Watts.
Wisconsin.																			
Appleton	Outagamie	795	10	70.5	+ 0.4	98	29	45	4†	34	1.40	− 4.44	0.63	0.0	7	22	1	8	s.	J. L. Mead.
Ashland	Ashland	647	15	69.0	+ 0.9	88	15	45	4†	35	8.70	+ 5.21	4.90	0.0	10	22	5	4	ne.	Sam Wheeler.
Cecil	Shawano	804	2	70.0		92	28	54	21	40	3.23		0.80	0.0	9	15	16	0	sw.	L. W. Schmidt.
Chilton	Calumet	860	15	69.4	− 1.4	96	29	45	5	34	3.17	− 0.23	1.98	0.0	4	15	16	0	sw.	D. V. Jones.
Crandon	Forest	1,060	12	65.5	− 1.3	88	1	40	4	39	3.76	+ 0.61	0.99	0.0	11	21	0	10	sw.	A. L. Emde.
Florence	Florence	1,293	17	65.6[b]		84[b]	1†	39[b]	19	35	7.99	+ 4.13	1.80	0.0	10	19	2	10	nw.	F. S. Evans.
Fond du Lac	Fond du Lac	800	23	69.8	+ 0.1	99	29	41	19	41	1.00	− 2.77	0.37	0.0	7	16	11	4	sw.	Geo. W. Marshall.
Grand River Locks	Marquette	616	1	70.0		98	29	41	19	39	0.40	− 4.70	0.25	0.0	3	25	4	2	se.	Jerry Parkinson.
Green Bay	Brown	617	23	70.4	+ 0.9	95	29	50	3	15	1.04	− 2.47	0.47	0.0	6	9	11	11	sw.	U. S. Weather Bureau.
Herbster [g]	Bayfield	700	1	61.8		92	28	30	3	40	9.12		5.20	0.0	7	17	5	5	ne.	Wm. Angell.
Iron River	Bayfield	1,096																		
Kewaunee	Kawaunee	590		65.5		89	2	47	4	29	0.78		0.50	0.0	6	17	10	4	s.	Eugene V. Kimball
Manitowoc	Manitowoc	616	59	67.1	0.0	98	29	46	4†	34	1.54	− 2.18	0.84	0.0	5	10	13	8	sw.	Johanna Lups.
Menasha	Winnebago	764									1.03	− 2.95	0.50	0.0	6	26	4	1	se.	George T. Allanson.
Menomonee Falls	Waukesha	842		70.8		95	29	45	4	36	2.31		1.45	0.0	7	26	3	2	w.	S. H. Christman.
Milwaukee	Milwaukee	681	39	70.2	+ 0.5	95	29	53	4	35	1.62	− 1.39	1.50	0.0	5	20	9	2	ne.	U. S. Weather Bureau.
New London	Outagamie	762	13	71.6	+ 1.6	99	29	46	4	44	1.15	− 3.68	0.75	0.0	5	18	10	3	se.	A. H. Pape.
Oconto	Oconto	590	18	69.5	+ 0.6	92	29	46	19	32	2.67	− 0.66	1.32	0.0	6	16	13	2		W. K. Smith.
Oshkosh	Winnebago	744	20	70.4	− 1.2	95	29	46	3	33	3.21	− 1.13	1.95	0.0	4	23	8	0	sw.	Evan Vincent.
Pine River	Waushara	900	14	70.0	+ 0.5	99	29	44	19	36	0.59	− 3.94	0.37	0.0	5	9	20	2	nw.	G. H. Carpenter.
Plum Island	Door	588	1	66.6		86	29	46	4	26	4.43		1.20	0.0	9	14	13	4	s.	John P. Whelan.
Port Washington	Ozaukee	713	16	68.4	+ 0.7	92	29	47	4	30	1.58	− 1.97	1.10	0.0	4	19	9	3	se.	R. C. Kann.
Racine	Racine	633	12	71.0	− 0.1	95	29	48	4†	39	2.34	− 1.27	1.95	0.0	4	17	12	2	se.	Daniel Davis.
Sheboygan	Sheboygan	831	9	69.8	+ 0.4	95	30	48	4	36	2.52	− 1.48	1.42	0.0	4	15	13	3	se.	Louis C. Meyer.
Sturgeon Bay	Door	600	11	65.2	− 0.3	90	29	40	4	32	1.95		0.81	0.0	7	14	14	3	s.	Adam N. Dier.
Superior	Douglas	671		65.4		89	28	49	2†	32	9.73		3.52	0.0	10	18	7	6	ne.	E. B. Banks.
Waupaca	Waupaca	857	13	70.2	− 0.6	97	29	43	19	39	0.80	− 2.91	0.53	0.0	5	16	7	8	sw.	J. H. Flagg.
Illinois.																				
Chicago	Cook	824	39	72.3	− 0.1	92	29	55	3	32	1.77	− 1.80	0.87	0.0	8	9	13	9	ne.	U. S.Weather Bureau.
Indiana.																				
Auburn	Dekalb	874	6	69.7		91	28	46	4†	38	1.69	− 2.79	0.61	0.0	8	18	5	8	sw.	Mrs. Josie Kuhlman.
Elkhart[f]	Elkhart	801		73.0		95	28†	49	4	33	3.51		2.18	0.0	8	17	10	4	se.	Miles Medical Co.
Fort Wayne	Allen	775	5	71.6		93	1†	49	4†	35	3.18	− 0.10	1.78	0.0	9	15	7	9	sw.	O. E. Mohler.
Hammond	Lake	598	12	71.3	− 2.4	94	29	50	24	39	2.52	− 0.12	0.72	0.0	6	14	11	6		C. W. Whitney.
Lima	Lagrange	886		71.7		95	28	46	4†	38	3.58		1.04	0.0	9	23	6	2	nw.	Jas. E. Zook.
South Bend	St. Joseph	726	10	71.0	− 3.1	93	28	45	4	33	3.23	− 0.34	1.22	0.0	10	17	4	10	sw.	H. H. Swaim.
Michigan.																				
Adrian	Lenawee	707	31	71.4	− 0.5	95	29	50	4†	38	2.73	− 0.95	0.82	0.0	10				s.	B. F. Gibbs.
Agricultural College	Ingham	820	45	70.0	− 1.1	89	13†	46	4	37	2.56	− 0.82	0.60	0.0	8	19	9	3	w.	Prof. A. J. Patten.
Allegan	Allegan	698	18	72.6	+ 0.8	93	28	46	4	36	2.75	− 0.14	1.05	0.0	6	7	21	3	w.	Agent, P. M. R. R.
Alma	Gratiot	750	22	69.3	0.0	91	29	42	4	39	2.21	− 0.95	0.70	0.0	9	11	19	1	sw.	P. M. Smith.
Alpena	Alpena	609	36	66.8	+ 1.0	93	29	43	4	31	2.37	− 0.69	0.71	0.0	11	10	14	7	nw.	U. S. Weather Bureau.
Ann Arbor	Washtenaw	930	29	70.4	− 1.4	91	12	46	5	32	2.28	− 1.04	1.05	0.0	6	15	8	8	sw.	University of Michigan.
Arbela	Tuscola	728	13	70.4	− 0.6	92	12†	43	8	41	1.20	− 1.99	0.56	0.0	5	5	21	5	sw.	Wm. Atkin.
Ball Mountain	Oakland	983	19	69.2	− 0.5	89	12	47	5†	33	1.82	− 1.39	0.70	0.0	8	16	9	6	sw.	F. N. Hilton.
Baraga	Baraga	623	7	66.1		90	9	42	3	38				0.0		23	1	7	n.	Agent, D. S. S. & A. Ry.
Battle Creek	Calhoun	822	25	69.6	+ 1.1	90	28	46	4	34	3.42	− 0.14	1.30	0.0	7	20	9	2	sw.	Elmer E. Sager.
Bay City	Bay	593	13	71.6	+ 0.3	95	29	47	4	32	4.15	+ 0.89	1.00	0.0	9	27	4	0	s.	Agent, P. M. R. R.
Benzonia	Benzie	832	13	67.2	− 0.7	88	29	42	4	32	3.65	+ 1.05	2.67	0.0	9	12	9	10	sw.	M. S. Joiner.
Berlin	St. Clair		20	68.8	− 1.0	91	12	45	4†	40	2.63	− 0.10	1.20	0.0	5	9	19	3	sw.	R. O. Gould.
Big Rapids	Mecosta	906	13	67.8	− 0.7	90	28	40	4	41	2.08	− 1.91	0.71	0.0	9	22	6	3	sw.	Charles Gay.
Blaney	Schoolcraft		2			83	27				4.60		0.95	0.0	10	28	0	3	sw.	Dr. S. S. Hackwell.
Bloomingdale	Van Buren		5	70.0		91	28	45	4	35	2.58	− 0.57	0.62	0.0	6	21	9	1	sw.	John M. Haven.
Cadillac	Wexford	1,378		68.8		94	28	42[a]	4	36[a]	2.66		1.26	0.0	12	20	8	3	nw.	A. J. Teed.
Calumet	Houghton	1,246	21	64.0	− 0.3	81	9†	42	12	26	6.69	+ 4.12	1.73	0.0	10	20	3	8	w.	E. S. Grierson.
Casopolis	Cass	903	8	71.0		93	28	48	4	34	4.20	− 0.28	1.50	0.0	6	25	0	6	sw.	Agent, M. C. R. R.
Charlevoix	Charlevoix	610	22	67.8	+ 0.2	90	29	44	5	31	2.32	− 0.20	0.60	0.0	7	19	9	3	nw.	Agent, P. M. R. R.
Charlotte	Eaton		5	68.2		92[a]	14	40[a]	24	38[a]			2.32[b]	0.0		11[b]	15[b]	3[b]	sw.	City of Charlotte.
Chatham	Alger	875	8	61.2		83	25	34	4	42	5.43	+ 2.07	1.86	0.0	13	13	10	8	n.	U. P. Express Station.
Cheboygan	Cheboygan	611	19	67.5	+ 0.9	90	1†	42	4	37	2.70	− 0.34	0.52	0.0	9	14	17	0	w.	E. A. Bouchard.
Clinton	Lenawee	830	19	70.0	− 2.6	92	28	44	8	43	2.15	− 0.98	1.50	0.0	5	20	10	1	sw.	David Woodward.
Coldwater	Branch	984	12	70.8[a]	− 1.2	90[a]	12†	47	4†	35	2.59	− 2.14	1.30	0.0	9	18	12	1	sw.	Agent, L. S. & M. S. Ry.
Concord	Jackson		4	69.9		89	12	48	4	34	2.55		1.05	0.0	5	17	14	0	nw.	J. S. Arthur.
Croton	Newago	681	1	69.4		89	29	41	4	36	1.88		0.62	0.0	6	6	25	0	sw.	G. R. M. Power Co.
Deer Park	Luce	610	8	60.2		84	28	42	13	28	3.57	+ 0.67	1.02	0.0	8	13	1	17	s.	Mrs. Sarah E. McGaw.
Detour	Chippewa	585	9	64.8	− 0.5	87	29	40	4	30	0.90	− 2.24	0.31	0.0	8	17	10	4	sw.	Nelson Abear.
Detroit	Wayne	730	38	71.0	− 1.0	90	12	54	4	25	5.94	+ 2.46	4.57	0.0	9	13	12	6	s.	U. S. Weather Bureau.
Durand	Shiawassee	799	2	71.0[a]		91	11†	47[b]	4†	41[b]	1.17		0.44	0.0	5	15	16	0	sw.	Agent, C. T.Dis.G.T.Ry.
Eagle Harbor	Keweenaw	622	10	61.5	+ 0.3	82	9†	42	2†	33	5.72	+ 3.46	1.45	0.0	10	11	12	8	w.	John Nolen.
East Tawas	Iosco	790	12	67.3	− 0.8	86	12	45	3†	31	2.40	− 1.59	0.80	0.0	7	24	7	0	w.	Agent, D. & M. Ry.
Eloise	Wayne	640	12	72.7[a]	+ 0.1	94[a]	12	49[a]	6†	35[a]	3.93	+ 0.34	2.50	0.0	3	24	7	0	sw.	Wayne Co. House.
Escanaba	Delta	612	36	65.1	− 1.4	87	29	46	4	25	6.19	+ 2.85	1.58	0.0	11	14	10	7	s.	U. S. Weather Bureau.
Ewen	Ontonagon	1,147	8	63.4		85	27	37	4	40	4.52	+ 1.75	1.34	0.0	8	4	12	15	w.	W. B. Hatfield.
Flint	Genessee	730	20	69.5	− 0.4	90[a]	12	47	5†	37[a]	2.58	− 0.26	1.50	0.0	5	18	9	4	w.	Wm. L. Fisher.
Frankfort	Benzie	589	5	65.6		88	2	44	26	32	1.66	− 1.64	0.96	0.0	7	16	0	15	s.	Capt. G. Morency.
Ganges	Allegan	665		68.4		89	28	44	4	28	2.53	− 1.08	0.83	0.0	7	25	5	1	sw.	H. H. Hutchins.
Gaylord	Otsego	1,367	5			88	9†				0.49	− 4.75	0.17	0.0	5	22	0	9	sw.	Agent, M. C. R. R.
Gladwin	Gladwin	794	13	70.0	+ 0.9	95	29	44	4†	45	0.95	− 2.50	0.40	0.0	3	25	5	1	sw.	Geo. R. Smith.
Grand Haven	Ottawa	628	28	67.0	− 2.7	84	28	48	4	28	0.76	− 1.82	0.54	0.0	6	15	14	2	nw.	U. S. Weather Bureau.
Grand Marais	Alger	610	8	56.9		74	26	42	3†	23	2.97	− 0.03	1.35	0.0	10	21	2	8	sw.	Mrs. Lena Truedell.
Grand Rapids	Kent	707	20	71.1	− 1.5	91	28	47	4	28	0.96	− 1.67	0.59	0.0	6	9	14	8	sw.	U. S. Weather Bureau.
Grape	Monroe	625	19	70.9	− 1.3	93	28	48	19†	36	2.89	− 0.07	2.25	0.0	10	17	14	0	w.	Jos. W. Morris.
Grass Lake	Jackson	989	3	69.4		91	12	42	6	37	2.92		0.95	0.0	8	14	0	17	sw.	Menzo Conklin.
Grayling	Crawford	1,147	20	68.0	+ 0.6	90	1	40	6	43	6.80	+ 3.84	2.23	0.0	9	14	13	4	nw.	Dr. Oscar Palmer.
Harbor Beach	Huron	635	21	65.2	− 2.8	92	29	43	5	30	2.60	+ 0.34	1.95	0.0	4	28	2	1	s.	Agent, P. M. R. R.
Harrison	Clare	1,159	16	70.0	+ 1.8	95	29	42	4	36	1.20	− 2.11	0.55	0.0	4	19	9	3	sw.	Do.
Harrisville	Alcona	616	25	67.6	+ 0.9	90	12	46	4	32	2.98	− 0.10	1.32	0.0	9	14	10	7	sw.	Dr. D. W. Mitchell.
Hart[b]	Oceana	698	17	70.4	+ 1.0	93	28	41	5	37	0.97	− 1.41	0.51	0.0	3	15	14	0	s.	Agent, P. M. R. R
Hayes	Huron	620	10	69.0	+ 0.3	92	29	42	19	40	2.10	− 0.64	0.82	0.0	7	17	6	8	sw.	C. F. Leipprandt.
Highland	Oakland	820	18								4.01	+ 0.75	2.65	0.0	8					A. D. De Garmo.
Hillsdale	Hillsdale	1,150	12	68.8	− 2.6	88	12†	46	19	33	2.33	− 2.02	1.00	0.0	7	19	8	4	sw.	Prof. C. L. Herron.

TABLE 1.—*Climatological data for July, 1909. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Michigan—Cont'd.																				
Holland	Ottawa	610	3	69.1	.....	92	28	43	3	33	0.65	.....	0.32	0.0	4	18	13	0	nw.	City of Holland.
Houghton	Houghton	668	8	65.3	.....	85	28	47	3	27	7.75	+ 4.65	1.57	0.0	13	15	8	8	w.	U. S. Weather Bureau.
Howell	Livingston	924	17	70.0	− 0.4	89	12	47	19	34	1.95	− 0.98	0.96	0.0	6	17c	9c	2c	sw.	Frank Sharp.
Humboldt	Marquette	1,536	12	60.8	− 1.3	85	9	31	19	44	4.52	+ 1.58	2.00	0.0	7	22	1	8	nw.	Agent, D. S. S. A. Ry.
Iron Mountain	Dickinson	1,111	8	67.0	.....	88	9	42	3	36	8.66	+ 5.41	2.41	0.0	7	11	11	9	nw.	Chapin Min. Co.
Iron River	Iron	1,504	12	64.4	0.0	85	14	36	19	40	9.02	+ 4.03	2.75	0.0	10	21	8	2	w.	Victor D. Laing.
Ironwood	Gogebic	1,520	6	65.0	.....	83	28	39	4	34	15.45	+11.72	6.72	0.0	9	21	5	5	nw.	Prof. J. V. Brennan.
Ishpeming	Marquette	1,536	6	64.8e	.....	85e	9	41e	19	37e	2.55	− 2.13	0.60	0.0	9	11	15	5	sw.	Clo'd Cliffs Iron Co.
Isle Royale	Keweenaw	610	2	54.2	.....	75	29	40	3†	26	4.51	.....	1.40	0.0	11	11	8	12	sw.	John H. Malone.
Ivan	Kalkaska	.....	20	67.6	− 0.4	91	29	42	17	42	2.22	− 0.62	1.10	0.0	9	13	16	2	sw.	O. L. Giddings.
Jackson	Jackson	927	12	72.3	− 1.2	93	12	50	4	35	5.18	+ 1.62	2.05	0.0	8	10	11	10	sw.	Agent, M. C. R. R.
Jeddo	St. Clair	667	20	70.0	+ 0.5	92	12	45	4	37	0.92	− 2.01	0.35	0.0	4	16	10	5	ne.	William Bice.
Kalamazoo[a]	Kalamazoo	955	33	69.8	− 2.5	89	28	49	4	25	3.98	+ 0.55	1.86	0.0	6	15	12	3	sw.	Kalamazoo Asylum.
Lansing	Ingham	881	22	70.3	− 0.8	89	28	46	4	34	2.35	− 1.05	0.77	0.0	8	15	8	8	sw.	State Board of Health.
Lapeer	Lapeer	827	10	71.6	+ 0.3	91	13	47	4†	37	1.98	− 0.84	0.80	0.0	4	26	5	0	sw.	Michigan Home.
Ludington[d]	Mason	586	11	68.0	+ 0.2	84	31	47	19	30	1.43	− 1.07	0.68	0.0	3	22	5	0	sw.	Agent, P. M. R. R.
Mackinac Island	Mackinac	831	9	64.6	− 0.3	85	29	44	4	36	3.25	− 0.80	1.50	0.0	13	18	11	2	sw.	M. I. S. P. Com.
Mackinaw	Cheboygan	592	13	66.3	− 0.7	86	29	42	14	35	2.85	− 0.65	0.80	0.0	6	11	18	2	w.	Agent, G. R. & I. Ry.
Mancelona	Antrim	1,121	13	65.9	− 1.5	90	29	39a	3	43a	2.65	− 0.05	1.20	0.0	3	28	2	1	w.	Do.
Manistee	Manistee	600	12	68.0	+ 1.0	89	29	45	4	34	0.25	− 3.02	0.12	0.0	3	22	6	3	sw.	Agent, P. M. R. R.
Maple Ridge	Delta	.....	3	62.9	.....	82	26†	39	3†	38	5.27	.....	1.02	0.0	13	19	2	10	s.	Herman Johnson.
Marquette	Marquette	734	38	65.0	+ 0.1	89	9	46	2	28	4.57	+ 1.47	1.24	0.0	13	14	9	8	nw.	U. S. Weather Bureau.
Menominee	Menominee	581	10	67.0	− 1.0	88	29	47	3	28	2.83	− 0.92	0.91	0.0	7	24	1	6	sw.	Fire Department.
Midland	Midland	604	10	70.3	− 0.4	93	29	39	1	51	0.69	− 2.55	0.20	0.0	6	10	15	6	sw.	Agent, P. M. R. R.
Montague	Muskegon	660	6	65.9	− 2.8	86	29	43	4	32	0.77	− 2.09	0.27	0.0	3	19	10	2	sw.	G. A. Whitbeck.
Morencie	Lenawee	811	2	69.4	.....	90	28	48	19	39	2.59	.....	1.53	0.0	8	14	14	3	sw.	George J. Tripp.
Mount Clemens	Macomb	615	9	68.0	− 4.3	92	12	45	5	41	4.65	+ 1.01	3.70	0.0	8	10	17	4	se.	Herman H. Orbits.
Mount Pleasant	Isabella	826	10	67.4	− 4.4	91	10	39	11	50	1.15	− 1.88	0.57	0.0	5	20	7	4	sw.	Agent, P. M. R. R.
Muskegon	Muskegon	587	13	68.4	− 1.8	85	8†	47	5	32	1.93	− 1.88	1.02	0.0	3	22	7	2	w.	Agent, G. R. & I. Ry.
Newberry	Luce	773	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22	0	9	.....	Agent, D. S. S. & A. Ry.
Old Mission	Grand Traverse	848	15	68.8	− 0.1	92	29	45	4	30	4.44	+ 2.19	2.20	0.0	10	14	12	5	n.	E. O. Ladd.
Olivet	Eaton	934	18	69.4	− 1.2	86	28	48	4	30	3.81	− 0.54	1.47	0.0	7	21	2	8	s.	Prof. G. A. Knapp.
Omer	Arenac	616	10	68.2	+ 1.5	94	29	42	6	40	1.05	− 1.96	0.40	0.0	4	2	27	2	sw.	Agent, D. & M. Ry.
Onaway	Presque Isle	826	6	68.0	.....	94	29	42	6	38	3.00	− 0.70	0.75	0.0	7	2	0	29	se.	Do.
Ovid	Clinton	760	19	69.9	− 0.9	91	12†	43	4	43	2.84	− 0.42	6.90	0.0	7	14	14	3	sw.	George B. Faxon.
Owosso	Shiawassee	731	12	70.5	− 2.0	90	12†	45	4†	39	1.77	− 2.59	0.70	0.0	8	3	28	0	sw.	Owosso Sugar Co.
Petoskey	Emmet	660	19	66.0	− 0.7	90	29	45	4	31	1.63	− 0.95	0.48	0.0	7	16	10	5	w.	Agent, G. R. & I. Ry.
Plymouth	Wayne	725	12	72.2d	+ 0.4	94	12	46	19	37	2.15	− 1.70	1.05	0.0	3	25	0	6	nw.	Agent, P. M. R. R.
Pontiac	Oakland	935	9	70.4	+ 0.8	89	12	48	5	34	4.63	+ 1.80	1.95	0.0	9	19	7	5	sw.	Fred W. Shaw.
Port Austin[c]	Huron	618	13	68.6	− 0.7	90	29	41	8	39	0.45	− 1.91	0.25	0.0	2	7	21	0	sw.	Agent, P. M. R. R.
Port Huron	St. Clair	639	34	68.2	− 0.8	91	12	48	4	29	1.25	− 1.49	0.55	0.0	7	9	14	8	sw.	U. S. Weather Bureau.
Powers	Menominee	581	10	67.0	+ 0.1	96	7	40	19	45	1.20	− 1.21	0.80	0.0	3	4	24	3	sw.	Agent, C. & N. W. Ry.
Reed City	Osceola	1,033	13	67.5	− 1.4	84	28	35	4	39	.....	.....	.....	0.0	.....	25	4	2	w.	Agent, P. M. R. R.
Roscommon[b]	Roscommon	1,141	5	62.0	.....	93	29	35	4	48	2.67	+ 0.06	0.68	0.0	9	13	14	2	w.	Agent, M. C. R. R.
Saginaw	Saginaw	601	7	66.6	.....	92	29	49	4	34	4.28	+ 0.09	1.58	0.0	9	4	27	0	sw.	Postmaster.
Saginaw, W. S.	do	601	14	71.0	− 0.8	92	29	45	4	36	2.93	− 0.91	0.90	0.0	10	13	18	0	sw.	R. B. Hudson.
St. Ignace	Mackinac	593	19	66.0	+ 1.7	88	1	47	8	35	1.35	− 2.04	0.65	0.0	4	25	1	5	w.	Agent, D. S. S. & A. Ry.
St. James	Charlevoix	681	3	68.6	.....	84	29	46	4	24	2.03	.....	0.58	0.0	5	13	10	8	nw.	Rev. N. Wilhelm.
St. Johns	Clinton	779	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	City of St. Johns.
St. Joseph	Berrien	593	23	70.2	− 2.0	86	....	49	4	27	0.76	− 1.63	0.40	0.0	4	16	8	7	sw.	Do.
Sandusky[d]	Sanilac	790	...	68.8	.....	92	29	42	8	41	1.03	.....	0.90	0.0	5	24	0	3	w.	Agent, P. M R. R.
Saranac	Ionia	639	14	70.4	− 1.3	94	28	42	4	43	1.24	− 1.72	0.58	0.0	5	16	10	5	sw.	John Wallington.
Sault Ste. Marie	Chippewa	614	21	63.0	+ 1.1	84	27	45	5	34	3.50	+ 0.75	1.30	0.0	10	11	13	7	w.	U. S. Weather Bureau.
South Haven	Van Buren	585	13	64.0	− 5.3	88	11	40	1†	42	1.50	− 2.35	0.60	0.0	5	16	12	3	nw.	Mrs. M. E. De Diemar.
Stanton[a]	Montcalm	880	17	72.6	+ 2.5	92	31	50	19†	38	.....	.....	.....	0.0	.....	20	6	0	sw.	City of Stanton.
Thomaston	Gogebic	1,347	12	62.8	− 1.9	86	28†	32	3	44	10.83	+ 6.84	5.50	0.0	5	14	16	1	w.	Agent, D. S. S. & A. Ry.
Thornville	Lapeer	975	32	68.2	− 3.8	89	12	46	8	35	2.44	− 0.63	1.15	0.0	6	17	13	1	sw.	Dr. J. S. Caulkins.
Traverse City	Grand Traverse	588	12	68.7a	− 0.3	94a	29	43a	5	39a	.....	.....	.....	0.0	.....	7	15	9	n.	Agent, G. R. & I. Ry.
Vassar	Tuscola	641	9	.....	.....	90	15†	.....	.....	.....	5.50	+ 2.39	2.50	0.0	4	.....	.....	.....	sw.	Agent, P. M. R. R.
Victoria	Ontonagon	.....	...	66.2	.....	86	28	46	3	35	5.22	.....	1.16	0.0	10	18	4	9	nw.	R. S. Schultz, Jr.
Watersmeet	Gogebic	1,605	...	63.1	.....	85	8	32	19	41	9.24	.....	2.98	0.0	10	12	13	6	.....	B. H. Grant.
Wasepi	St. Joseph	842	12	69.3	− 1.8	89	28†	46	4	32	3.45	− 0.99	1.13	0.0	9	23	0	8	sw.	Charles A. Palmer.
Webbersville	Ingham	884	7	70.0	.....	92	12	45	5	42	2.37	− 1.61	1.21	0.0	7	3	28	0	sw.	J. R. Wadsworth.
West Branch	Ogemaw	973	7	.....	.....	96	29†	.....	.....	.....	2.88	− 0.61	1.20	0.0	4	12	13	6	nw.	Agent, M. C. R. R.
Wetmore	Alger	878	12	62.2	+ 0.3	85	8†	34	4	42	0.80	− 2.31	0.25	0.0	8	10	1	20	n.	Agent, D. S. S. & A. Ry.
Whitefish	Chippewa	610	19	57.6	− 1.2	76	29	43	5†	26	4.13	+ 0.98	1.74	0.0	12	17	6	8	nw.	Robert Carlson.
Woodlawn	Montmorency	.....	7	65.4	.....	89	29	36	4	44	2.91	+ 0.86	1.10	0.0	11	17	12	2	nw.	T. C. Mathews.
Ypsilanti	Washtenaw	736	24	69.3	− 1.4	92	12	48	5	33	2.73	− 0.81	2.17	0.0	8	6	25	0	nw.	Orin J. Bemiss.
Ohio.																				
Akron	Summit	1,081	23	69.8	− 2.3	88	1†	46	4	31	2.86	− 1.34	0.98	0.0	13	17	7	7	s.	Prof. C. R. Olin.
Benton Ridge	Hancock	800	17	71.6	− 2.5	92	12	48	19	36	2.37	− 1.55	0.96	0.0	8	13	17	1	sw.	J. W. Powell.
Bowling Green	Wood	670	17	71.0	− 2.0	92	12	48	4†	35	2.45	− 1.37	0.82	0.0	4	16	10	5	sw.	C. G. Housekeeper.
Bucyrus	Crawford	1,000	11	69.6	− 4.0	90	29	45	19†	37	1.88	− 2.36	0.60	0.0	9	19	5	7	ne.	J. R. Hopley.
Cleveland (1)	Cuyhoga	762	39	69.8	− 2.7	91	12	52	5	24	3.12	− 0.43	0.92	0.0	9	12	14	5	se.	U. S. Weather Bureau.
Cleveland (2)	do	754	13	70.8	− 2.3	92	12	51	5	29	3.58	− 0.73	1.47	0.0	8	19	5	7	nw.	F. Odenbach, S. J.
Defiance	Defiance	712	16	70.0	− 3.1	90	12†	45	3	35	2.11	− 2.11	1.07	0.0	10	15	5	11	nw.	J. F. Heilshorn.
Findlay	Hancock	776	20	71.6	− 2.8	93	12	46	19	40	1.67	− 2.64	0.51	0.0	10	26	4	1	se.	Dr. E. A. Moser.
Fremont	Sandusky	.....	9	72.1	.....	94	12	51	4	41	5.48	.....	2.68	0.0	7	14	14	3	sw.	E. S. Thomas.
Hedges	Paulding	725	12	70.6	− 2.7	90	28	47	19†	36	1.31	− 1.82	0.52	0.0	8	15	9	7	nw.	Charles Stutsman.
Hillhouse	Lake	1,000	18	68.4	− 2.4	90	12	43	5	35	3.24	− 1.81	0.74	0.0	10	13	17	1	nw.	J. W. Doncaster.
Hiram	Portage	1,260	25	69.2	− 2.2	87	12	46	4	28	2.70	− 0.86	1.09	0.0	8	13	15	3	sw.	George H. Colton.
Hudson	Summit	1,153	15	68.4	− 4.5	93	12	42	4†	42	4.46	− 0.72	1.74	0.0	12	20	10	1	sw.	W. I. Chamberlain.
Lima	Allen	875	9	71.1	.....	90	12	50	5	28	2.64	.....	1.01	0.0	8	22	6	3	sw.	Miss Ollie De Long.
Medina	Medina	944	15	68.9	− 4.1	89	12	42	4	39	3.59	− 1.30	1.11	0.0	9	21	7	3	nw.	F. W. Clark.
Montpelier	Williams	.....	18	71.2	− 1.0	92	28	48	19	36	3.53	− 0.47	1.26	0.0	8	19	6	6	w.	G. L. Laser.
Napoleon	Henry	680	17	71.6	− 1.5	91	12	50	20	32	2.49	− 1.42	0.86	0.0	8	15	10	6	w.	A. C. Senter.
New Bremen	Auglaize	1,038	16	71.2	− 3.0	90	1†	50	4†	32	3.39	− 0.07	1.25	0.0	10	15	12	4	sw.	Lillian Grothaus.
North Royalton	Cuyahoga	1,000	17	69.0	− 3.6	89	12	43	4	32	5.50	+ 0.87	1.60	0.0	10	15	14	2	nw.	W. S. Edgerton.
Norwalk	Huron	719	16	70.2	− 2.7	94	12	47	4†	40	4.28	− 0.76	1.48	0.0	13	24	6	1	s.	A. Sheldon.
Oberlin	Lorain	855	27	69.6	− 2.8	93	12	45	4	39	4.74	+ 0.92	1.80	0.0	10	13	10	8	w.	Prof. F. F. Jewett.
Ottawa	Putnam	720	15	71.2	− 3.2	91	12†	48	19	36	1.31	− 2.41	0.50	0.0	8	0	27	4	nw.	John T. Maidlow.
Rocky Ridge	Ottawa	590	16	71.2	− 2.9	93	12	50	19	33	5.38	+ 2.11	1.72	0.0	10	14	11	6	sw.	Anson Green.
Rome[a]	Ashtabula	.....	7	67.0	.....	92	12	40	5	40	4.11	.....	1.07	0.0	9	22	5	4	se.	G. H. Crosby.
Sandusky	Erie	629	33	71.8	− 1.8	93	12	57	5	25	6.52	+ 2.73	3.36	0.0	10	13	11	7	sw.	U. S. Weather Bureau.
Tiffin	Seneca	775	24	71.4	− 2.2	91	12	52	8†	33	1.80	− 1.94	0.58	0.0	8	16	14	1	sw.	T. H. Sonnedecker.
Toledo (1)	Lucas	628	39	71.6	− 2.1	90	12	54	4	23	3.67	+ 0.43	1.72	0.0	11	19	11	1	sw.	U. S. Weather Bureau.
Toledo (2)	do	606	6	70.7	.....	91	12	51	17	30	3.29	.....	0.98	0.0	12	9	13	9	s.	Joseph Horst, S. J.

TABLE 1.—*Climatological data for July, 1909. District No. 4*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Ohio—Cont'd.																			
Upper Sandusky	Wyandot	834	27	71.3	− 2.5	90	12	48	19	34	1.45	− 2.12	0.45	0.0	4	17	13	1	sw.	R. S. Kiefer.
Vickery	Sandusky	588	17	70.5	− 2.8	94	12	48	4†	37	5.50	+ 1.37	2.64	0.0	10	8	19	4	s.	John W. Barr.
Wauseon	Fulton	780	40	70.3	− 2.6	92	28	47	19	36	3.78	− 0.53	1.16	0.0	10	13	13	5	s.	Thomas Mikesell.
Wellington[a]	Lorain	856	17	70.4	− 3.1	94	12	41	20	46	4.32	+ 0.10	2.05	0.0	10	23	5	3	.....	W. D. Warren.
Willoughby	Lake	.....	...	.....	.....	.....	...	.....	...	.....	2.77	− 0.81	0.86	0.0	6	12	14	5	n.	C. J. Richardson.
Pennsylvania.																				
Erie	Erie	713	36	69.2	− 2.1	89	12	52	5	22	2.46	− 0.75	0.76	0.0	9	11	14	6	w.	U. S. Weather Bureau.
New York.																				
Adams Center	Jefferson	540	18	68.5	.....	89	15†	50	6†	30	5.14	+ 0.60	0.95	0.0	13	18	11	2	s.	A. E. Cooley.
Angelica	Allegany	1,340	26	64.9	− 3.0	88	11	33	5	50	1.37	− 2.79	0.43	0.0	11	7	16	8	nw.	Charles P. Arnold.
Appleton	Niagara	270	18	68.9	− 0.7	89	10	47	5	32	3.21	− 1.00	0.64	0.0	9	18	9	4	nw.	H. A. Van Wagoner.
Auburn	Cayuga	715	40	68.0	− 2.5	90	15	47	5	30	2.61	− 1.12	0.63	0.0	9	23	5	3	n.	A. H. Underwood.
Avon	Livingston	585	14	67.8	− 3.8	89	10	45	5	34	3.52	− 0.42	0.90	0.0	9	18	6	7	.....	W. G. Markham.
Benson Mines	St. Lawrence	.....	1	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Blue Mountain Lake	Hamilton	1,750	9	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Brockport	Monroe	537	13	68.0	− 3.2	88	11†	50	4†	32	5.48	+ 1.16	1.66	0.0	13	18	8	5	sw.	W. H. Lennon.
Buffalo	Erie	767	58	68.6	− 1.6	83	11	51	24	22	2.49	− 0.91	0.67	0.0	10	12	12	7	sw.	U. S. Weather Bureau.
Canton	St. Lawrence	448	15	66.0	− 4.5	88	15	42	9	36	3.35	+ 0.12	0.84	0.0	16	12	11	8	sw.	Do.
Cape Vincent	Jefferson	246	4	66.4	.....	84	15	45	8	29	3.94	.....	0.86	0.0	13	10	14	7	sw.	V. M. Rice.
Carvers Falls	Washington	243	11	66.6	− 2.2	90	30	43	5†	33	1.70	− 2.04	0.60	0.0	8	17	10	4	s.	W. Fancher.
Chazy	Clinton	151	10	67.0	.....	90	15	44	10	34	1.00	.....	0.45	0.0	6	21	2	8	n.	W. R. North.
Dannemora	...do	1,490	4	65.9	.....	85	16	45	4	29	3.12	.....	0.78	0.0	9	5	13	13	w.	W. N. Thayer.
Elba	Genesee	500	10	67.2	.....	89	10†	46	5	36	4.83	.....	1.36	0.0	11	18	4	9	sw.	Jos. S. Wilfert.
Faust[b]	Franklin	1,552	9	63.0	.....	85	15	40	9	37	3.55	.....	0.77	0.0	17	...	...	...	w.	Aaron W. Maddox.
Fayetteville	Onondaga	530	8	68.8	.....	90	11†	46	5†	37	2.50	.....	0.84	0.0	8	13	13	5	nw.	D. H. Wells.
Gabriels	Franklin	1,729	7	62.6	.....	87	15†	30	9	50	4.72	.....	0.71	0.0	14	10	14	7	w.	W. S. Everham.
Harkness	Clinton	622	6	67.0	.....	89	15	44	9	31	2.64	.....	1.14	0.0	9	21	8	2	w.	J. W. Harkness.
Hemlock Lake	Livingston	900	11	67.8	− 3.4	86	15	47	7†	34	2.44	− 1.74	0.72	0.0	6	17	7	7	nw.	D. H. Westbury.
Hunt	...do	1,321	10	67.8	.....	88	12	42	7	36	2.41	.....	1.13	0.0	8	7	21	3	nw.	W. S. Barrager.
Ithaca	Tompkins	928	31	68.7	− 1.9	90	15	43	9	39	1.62	− 2.13	0.78	0.0	11	12	15	4	nw.	U. S. Weather Bureau.
Keene Valley	Essex	1,000	11	65.2	− 1.6	92	15	37	9	44	3.26	− 1.07	0.73	0.0	13	9	12	10	s.	E. R. Wells.
Keuka Park	Yates	750	63	69.3	.....	93	15	44	9	40	1.15	− 2.17	0.25	0.0	9	15	9	7	nw.	Dean L. Myers.
King Ferry	Cayuga	.....	9	.....	.....	.....	...	.....	...	.....	2.10	− 2.32	0.45	0.0	10	17	9	5	nw.	L. A. Goodyear.
Lake George	Warren	350	4	67.6	.....	91	15	44	5	37	2.13	.....	0.73	0.0	8	10	17	4	ne.	Charles Forsell.
Lake Placid Club	Essex	1,864	1	59.0	.....	81	15	39	7	31	5.20	.....	0.91	0.0	19	12	13	6	nw.	Henry Van Hoevenberg.
Le Roy	Genesee	920	19	68.2	− 0.5	88	28	48	5	35	4.46	+ 1.25	1.64	0.0	14	10	9	12	nw.	F. W. Ball.
Lockport[a]	Niagara	650	22	69.1	− 1.5	89	11	50	5†	28	5.69	+ 1.42	1.56	0.0	11	16	7	8	sw.	J. E. Wakeman.
Lowville	Lewis	900	42	65.4	− 2.1	90	15	37	9	44	2.72	− 1.10	0.62	0.0	10	15	6	10	w.	Charles J. Rice.
Lyndonville	Orleans	.....	9	.....	.....	.....	...	.....	...	.....	3.52	− 0.18	1.45	0.0	6	23	5	3	sw.	W. S. John.
Moira	Franklin	200	9	67.4	.....	93	15	44	9	34	3.05	.....	0.67	0.0	10	7	15	9	w.	C. E. McBride.
Nehasane	Hamilton	1,750	1	61.2	.....	86	15	32	9	46	4.68	.....	0.83	0.0	17	16	3	12	s.	A. C. Heyburn.
North Hammond	St. Lawrence	300	20	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
North Lake	Herkimer	1,822	8	62.4	.....	87	15	40	5	37	4.49	.....	1.07	0.0	8	11	8	12	nw.	H. A. Paulls.
Ogdensburg	St. Lawrence	175	17	67.1	− 2.2	89	15	44	20†	35	3.96	+ 0.26	0.80	0.0	13	10	5	16	sw.	State Hospital.
Old Forge	Herkimer	1,733	1	62.7	.....	87	15	36	9	44	4.35	.....	0.84	0.0	14	10	16	5	w.	Stuart W. Nelson.
Oswego	Oswego	335	39	66.6	− 3.0	85	12	51	9	23	4.39	+ 1.16	2.76	0.0	9	11	13	7	w.	U. S. Weather Bureau.
Otto	Cattaraugus	1,410	5	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Palermo	Oswego	460	50	.....	.....	.....	...	.....	...	.....	1.83	− 1.50	0.52	0.0	10	19	8	4	sw.	E. B. Bartlett.
Perry City	Schuyler	1,038	19	68.8	− 0.2	93	11†	39	9	48	1.76	− 2.58	0.68	0.0	9	11	17	3	nw.	W. H. Jeffers.
Philadelphia	Jefferson	485	3	67.4	.....	86	15†	44	7	34	4.76	.....	0.90	0.0	14	5	23	3	w.	E. D. Babcock.
Plattsburg	Clinton	170	50	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Potsdam[a]	St. Lawrence	300	33	67.3	− 1.0	92	15	44	7†	36	3.74	− 0.44	0.82	0.0	11	.....	.....	.....	nw.	Lloyd W. Weed.
Raquette Lake	Hamilton	.....	1	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Rochester	Monroe	523	80	69.2	− 1.2	89	12	50	5	30	3.49	+ 0.40	1.12	0.0	12	12	10	9	sw.	U. S. Weather Bureau.
Romulus	Seneca	719	17	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Scottsville	Monroe	.....	...	.....	.....	.....	...	.....	...	.....	4.28	.....	1.05	0.0	...	...	...	...	.....	F. Budlong.
Shortsville	Ontario	740	10	68.4	.....	87	10	47	7	31	3.45	.....	0.93	0.0	12	18	9	4	w.	C. H. Latting.
Skaneateles	Onondaga	.....	9	.....	.....	.....	...	.....	...	.....	3.27	.....	1.06	0.0	9	...	...	...	.....	Edward Conson.
Syracuse	...do	597	7	68.4	.....	88	15	50	9	30	1.72	− 1.96	0.81	0.0	9	9	13	9	s.	U. S. Weather Bureau.
Ticonderoga	Essex	344	11	68.4	.....	97	30	47	7†	34	2.20	.....	0.69	0.0	7	15	8	8	s.	Eva M. De Lano.
Trudeau	...do	1,620	16	.....	.....	.....	...	.....	...	.....	.....	.....	.....	.....	...	...	...	...	.....	
Volusia	Chautauqua	1,167	10	67.7	− 0.6	90	12	44	5	30	2.61	− 1.36	1.23	0.0	7	16	10	5	s.	Benjamin Breads.
Watertown	Jefferson	737	16	67.6	− 2.1	88	15	48	4†	30	3.60	− 0.19	0.86	0.0	16	14	11	6	sw.	H. P. Dunlap.
Wedgwood	Schuyler	1,430	20	68.8	− 1.1	92	15	47	5	33	1.13	− 2.19	0.50	0.0	7	17	12	2	sw.	O. F. Corwin.
Westfield	Chautauqua	837	13	67.3	− 3.7	86	10	47	5	26	2.85	− 1.67	1.06	0.0	5	...	...	...	.....	John R. Rogers.
Youngstown	Niagara	.....	7	.....	.....	.....	...	.....	...	.....	3.12	.....	0.76	0.0	10	12	19	0	sw.	B. V. Brookins.
Vermont.																				
Burlington	Chittenden	404	3	66.4	.....	88	15	45	9	36	4.06	.....	2.48	0.0	14	6	14	11	s.	U. S. Weather Bureau.
Cornwall	Addison	507	17	67.8	− 3.1	92	28	43	9	35	2.79	− 0.97	0.55	0.0	11	10	16	5	s.	C. H. Lane.
Enosburg Falls	Franklin	601	19	65.4	− 2.2	90	15	40	7†	37	3.10	− 2.24	0.84	0.0	16	14	10	7	n.	L. H. Pomeroy.
Northfield	Washington	876	24	62.8	− 3.8	86	15†	39	7†	36	2.53	− 1.17	0.61	0.0	14	7	17	7	sw.	U. S. Weather Bureau.
Wells	Rutland	750	18	65.7	− 3.3	88	15	43	9	31	1.76	− 2.61	0.77	0.0	11	7	21	3	s.	E. R. Pember.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 4, Lake Region.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota.																																	
Duluth	Lake	.01							T.			T.	.18	.52	.40	.07				.45	1.48	5.20	1.15					T.	.30			1.07	10.83
Floodwood	...do	.04									.02	.10	.12	.73	.10				.43	.84	1.60	1.23										.22	5.43
Mt. Iron	...do		.10						.02	.02			.99	.01	.45	.12	.01			.71	.25	1.80	.35					.01	.06	.14		.13	5.17
Stephen's Mine	...do		.50						T.			T.	.34	.15	.56	.28				.56	.38	1.84	.74						T.	.41		.10	5.86
Two Harbors	...do		.10										1.40		.45	.40					1.10	4.20	1.15						.10	.15		.07	9.12
Wisconsin.																																	
Appleton	Fox	T.	.40								.63	.01	.11	.01			T.						.16	.08					T.				1.40
Ashland	Lake	.03	.07									.21	.22		.80	.03				.22	.40	4.90	1.82						T.				8.70
Cecil	Fox	.08	.44							.11	.09	.48	.73			.80							.46					.04					3.23
Chilton	Lake	.58	.52								1.98						T.												.09				3.17
Crandon	Fox		.45								.64		.33	.01	.03	.77				T.	.09	.32	.99	.01					.12				3.76
Florence	Menominee		1.80						.07		.94	.12		.31	.25						**	2.90	1.20						.27	.13			7.99
Fond du Lac	Fox	.10	.37								.24	T.		.04									.03	.07					.15				1.00
Grand River Locks	...do										.25			.07									T.				.08					0.40
Green Bay	Lake	T.	.47								T.	T.	.13		.19	.07	T.						.10						T.			.08	1.04
Herbster	...do												.74	.47						.70	1.71	5.20	.10							.20			9.12
Iron River	...do																																
Kewaunee	...do		.50							.10			.05										10						.02	.01			0.78
Manitowoc	...do		.84							.36		.02					.06						.26						T.				1.54
Menasha	...Fox		.50							.16		.26			.03								.06						.02				1.03
Menominee Falls	Lake		1.45				T.				.10			.05		.03							.04						.62	.02			2.31
Milwaukee	...do		1.50										T.			T.		T.					.09						.01	.01		.01	1.62
New London	Fox			.30								.15	.60										.05									.05	1.15
Oconto	Lake		1.32								T.	.65			.35	.05							.25						.05				2.67
Oshkosh	Fox			.50							1.95	.66											T.						.10				3.21
Pine River	...do		.37								.12	T.	.03	.04									.03				T.		T.				0.59
Plum Island	Lake		1.20								T.	T.	.45		.25	.50		T.			.82	.33	.36	.28					.24				4.43
Port Washington	...do		1.10								.03						.03												.42				1.58
Racine	...do			1.95		T.	T.	T.			.10	T.				.28								.01					T.				2.34
Sheboygan	...do	T.		1.42							.72												T.	.18					.20				2.52
Sturgeon Bay	...do	T.	.81								T.		.27		.04	.36					T.		.33	.11					.03				1.95
Superior	...do	.01											.09		.06	.44	.08				1.57	3.41	3.52						.04	.51			9.73
Waupaca	Fox		.11							.08		.53	.04										.04										0.80
Illinois.																																	
Chicago	Lake		.87		.03	.09	.03					T.	T.			T.			.13				T.				.02	T.	.06	.54		T.	1.77
Indiana.																																	
Auburn	Maumee			44									.14	.61			.20		.08					.01						.08	.13			1.69
Elkhart	St. Joseph	.17		64		.03							.03	T.		.28			T.				13	.05					T.	2.18			3.51
Fort Wayne	Maumee			35		.16	T.					.12	1.78			.26	.12		.25				T.	T.					.05	.09		T.	3.18
Hammond	Lake			.70		.30	.10												.18										.52	.72			2.52
Lima	St. Joseph			65									.05		.10		.47		.15					.30	.02					.80	1.04		3.58
South Bend	...do			50		.03	.09	T.					.04	.01			.47		.66				.01	.20						T.	1.22		3.23
Michigan.																																	
Adrian	Raisin	.45	.18									.03	.14	.53		.82		.04					.15	.04						.35			2.73
Agricultural College	Grand		.47													.59							.60	.37					.37	.02	.04	.10	2.56
Allegan	Kalamazoo		.14									T.		.13	.45								.80	.18					T.	1.05			2.75
Alma	Saginaw		.30									.12	.08			.06							.35	.70					.40	.15	.05		2.21
Alpena	Lake		.23							.01	.70	.02	.15		T.	T.	T.	.01			.04	.40	.22	T.					.37	.22			2.37
Ann Arbor	Huron		.14										.03		T.	.42							.58	.06					T.	1.05			2.28
Arbela	Saginaw		.16													.08							.18	.56						T.		.22	1.20
Ball Mountain	Clinton		.20											.01	T.	.18	T.						.17	.35						.70	.03	.18	1.82
Baraga	Lake																																
Battle Creek	Kalamazoo	.15	.45									T.				.25							1.08	.10					1.30	.09			3.42
Bay City	Saginaw		.20								1.00	.20				1.00					.20	.25	1.00						.20			.10	4.15
Benzonia	Betsey's		2.67						.01	.01	.02		.08								.45	.15							.04	.22			3.65
Bergland	Ontonagon																				1.38	.75	4.10							.84			
Berlin	Clinton		.10									T.	T.		T.	T.							.81	.26					T.	1.20		.26	2.63
Big Rapids	Muskegon		.48								.12		.04	T.		.04							.08	.40					T.	.71	.03	.18	2.08
Blaney	Manistique		.05							.95			.85			.95		.05			.65	.45	.25	.15					.25				4.60
Bloomingdale	Lake		.60	.50								T.		T.		.62						.40		.13			T.		.33				2.58
Cadillac	Manistee		1.26	.02							.21	.01	.05	.01					.12			.12	.20	.21					.07	.38			2.66
Calumet	Lake		.67						T.			.18	1.55	T.	.62			.07			1.73	.83	.42		.03				T.	.59		T.	6.69
Cassopolis	St. Joseph			.85												.62			.38				.65	.20						1.50			4.20
Charlevoix	Lake		.59							.29			.32			.28		.14			.60		.10										2.32
Charlotte	Kalamazoo		.14									T.		T.		.28						2.32	.09										
Chatham	Lake		.48							.04		.96	.80		.36	.49		.19			.54	.09	.96	.04					.07	.31		T.	5.43
Cheboygan	Cheboygan		.52							T.		T.	.25			.50			.05		.20	.25	.15	.38								.40	2.70
Clinton	Raisin	T.		.12									.05		.10	.38							T.	T.					T.	1.50			2.15
Coldwater	St. Joseph	.09		.44									.05			.41			.02				.04	.16				.08	1.30				2.59
Concord	Kalamazoo		.25													1.05							T.	.25					.75	.25			2.55
Croton	Muskegon		.11								T.	.58	T.			.15							.62	.15						.27			1.88
Deer Park	Lake		.60							T.		.80	T.		.15	.30		.10			.20		1.02							.40			3.57
Detour	St. Mary's		.31							.04			.06	T.		.07		T.	.17		.09	.06	T.	.06					.04				0.90
Detroit	Detroit		.03									.03	.05	T.	.45	.24							.55	.02					1.03	3.54		T.	5.94
Durand	Saginaw		.21	.14									T.	T.		.03						T.	.35	.44						T.	T.	T.	1.17
Eagle Harbor	Lake		.90							T.		**	1.45		.45		.06	.25		T.	1.20	.55	.48					T.		.36		.02	5.72
East Tawas	...do		.15								.55		.10					.20			.10		.80							.50			2.40
Eloise	Rouge																.40							1.03					2.50				3.93
Escanaba	Lake	T.	.58							.02		.72	.05	.01	1.39	T.		.11		T.	1.12	.37	1.47						.17	.18			6.19
Ewen	Ontonagon			1.09								.35	.61			.03			.03	.13	.94	1.34											4.52
Flint	Saginaw		.15													.08							1.50	.40								.45	2.58
Frankfort	Betsey's		.96								.10		.10								20	.10							.05	.15			1.66
Ganges	Lake		.83									.01		.19		.54							.62	.14						.20			2.53
Gaylord	Cheboygan		.17							.12								.08				.04	.08	T.									0.49
Gladwin	Saginaw		.40								.40	.15										T.							T.			T.	0.95
Grand Haven	Grand		.54								.02	.01				.04							.13	.02									0.76
Grand Marais	Lake		.30							.15		.08	.10	.15	T.	.09		.30			.25		1.35							.20			2.97
Grand Rapids	Grand		.23									T.		T.		.08							.46	.13					.04	.02			0.96
Grape	Raisin	.02		.13								T.	.16	.01	.07	.17	.01						.04	.03						2.25			2.89
Grass Lake	Grand	.05		.25								T.	T.		.05	.95							.88	.14					.15	.45			2.92
Grayling	Au Sable	.15							T.	.15	.25								.05		.75	.10	2.25	2.10				1.00					6.80
Harbor Beach	Lake		.05									1.95								.20				.40										2.60
Harrison	Saginaw		.48									.27	.28			.17																		1.20
Harrisville	Lake		.10							T.	.24		.03				T.		.06		T.	.22	.31	.30					.40	1.32			2.98
Hart	Pentwater		T.							.12						T.						.34	.51						T.				0.97
Hayes	Pigeon		.82						.15	.30			.05			.05			34					21						.23			2.10
Highland	Huron		.21											.03	.32	.09							.45	.20						2.65		.06	4.01
Hillsdale	St. Joseph		.27									.05	.07		T.	1.00							T.	.33					.07	.54			2.33
Holland	Lake		.32													.14							.07	.12					T.				0.65
Houghton	...do		.64							.14		.23	1.44		.47		T.	.01		T.	1.47	1.04	1.30	.02					.02	.95		.02	7.75
Howell	Saginaw		.13										T.	T.		.01							.96	.50					.05	.30			1.95
Humboldt	Escanaba		2.00									.60	.18		.73						.52	.26	.23										4.52
Iron Mountain	Menominee		1.57									.07	T.	1.27	T.	.72					.75	2.41	1.87						T.				8.66
Iron River	...do		.75							.14		**	1.44		.30	.15				T.	.55	2.75	2.64	.18						.12			9.20
Ironwood	Lake		.04									.40	.35		.77					.44	1.05	6.72	5.00							.68			15.45

TABLE 2.—*Daily precipitation for July, 1909. District No. 4*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Michigan—Cont'd.																																	
Ishpeming	Escanaba		.60							T.		.30	.40		.30	.10	T.				.25	.20	.20							.20		T.	2.55
Isle Royale	Lake		.63			T.				.42		.04	1.36		.21				.14		.12	1.20	.22							.12		.05	4.51
Ivan	Manistee	T.	.39								.01	T.	.28							.07		.01	.16	.90	.20					20			2.22
Jackson	Grand	.10		.20											.32	2.05								.40	.62				.35	1.14			5.18
Jeddo	St. Clair										T.		.07			T.								.25	.35					.25		T.	0.92
Kalamazoo	Kalamazoo		.85									.33				.09								.63	.22				1.86				3.98
Lansing	Grand		.47									T.	T.	.08		.40								.77	.31				.21	.07		.04	2.35
Lapeer	Saginaw		.14													T.								.39	.65							.80	1.98
Ludington	Pere Marquette		.68																						.43						.32		1.43
Mackinac Island	Lake		1.50							.25		.20	.05		.10	.15		.10			.05	.25	.05	.20					.25			.10	3.25
Mackinaw	do		.80							T.		T.	.40	T.		.55	T.		.20		T.	T.	T.	.70					.20		T.	2.85
Mancelona	do		.30							T.			T.					T.			T.	1.15	T.	1.20					T.				2.65
Manistee	Manistee		.09								.04													.12									0.25
Maple Ridge	Lake		.60							.38		1.02	.80		.18	.12		.05			.75	.15	.45	.05					.19	.53			5.27
Marquette	do		.70							.03		.94	.30		.56	.03	T.	.05		.02	.30	.34	1.14							.15		.01	4.57
Menominee	Menominee		.91									.35	.08	.28	.63	T.					.35		.23										2.83
Midland	Saginaw		.10									.15				.06							.20	.08								.10	0.69
Montague	White		.27													.27							.23										0.77
Morenci	Maumee	.04										.03	.30	.08		.33							.13	.15						1.53			2.59
Mt. Clemens	Clinton		.05										.10	T.		.19							.20	.20					3.70	.20	.10	4.65
Mt. Pleasant	Saginaw		.57										.18		.13														.17		.10		1.15
Muskegon	Muskegon		1.02								.76	T.				T.						.15											1.93
Newberry	Taquemenon																																
Old Mission	Lake		.45								.08	.15	.20			.10			.08		.39	.59	2.20		.20								4.44
Olivet	Kalamazoo		.44									T.	.09			.84							1.38	.09					.80	.17			3.81
Omer	Lake		.35								.40					.20								.10									1.05
Onaway	Cheboygan		.30										.20			.20						.75	.60	.65						.30			3.00
Ovid	Grand			.20								.30	T.				.08							.71	.44					.90	.21		2.84
Owosso	Saginaw		.03	.18							.03					.05							.34	.70					.02	.42			1.77
Petoskey	Lake		.48							.40		.02	.05			.28					.15	.25											1.63
Plymouth	Rouge		T.																				.90	.20						1.05			2.15
Pontiac	Clinton		.27									.25	.04	T.	T.	.20	T.					T.	.55	.30				1.95	.70		.37	4.63
Port Austin	Lake										.25																			.20			0.45
Port Huron	St. Clair		.11									.03	T.			.01					T.	T.	.53	.07					.46	.04		T.	1.25
Powers	Lake		T.									T.	T.		T.						.10	.80	.30						T.				1.20
Reed City	Muskegon																																
Roscommon	Au Sable		.44								.25	.28	.24				T.		T.		T.	.27	.25	.26					.48	.20			2.67
Saginaw	Saginaw		1.00								T.	.01	.65		.05						T.	T.	.86	.72					.32	.10		.57	4.28
Saginaw, W. S.	do		.20									.05	.10	T.		.07					T.		.90	.56					.32	.01	.02	.70	2.93
St. Ignace	Lake		.65										.35			.25						.10											1.35
St. James	do		.40											.30		.45					.30		.58										2.03
St. Johns	Grand																																
St. Joseph	St. Joseph		.40	.32															.02				T.	.02					T.				0.76
Sandusky	Lake		.15										.70		.06	.12								.90									1.93
Saranac	Grand		.08									T.				.09							.34	.15					T.	.58			1.24
Sault Ste Marie	St. Mary's		.45							T.		.84	.47		.03	.07		.45			.27	.31	.44						.17				3.50
South Haven	Lake		.50													.20							.10	.10					.60				1.50
Stanton	Grand																																
Thomaston	Lake		.53									.35		T.	1.10	T.				T.	5.50		3.35										10.83
Thornville	Saginaw		.24									T.	T.		.27								.50	.20					.08			1.15	2.44
Traverse City	Lake																																
Vassar	Saginaw		.50								1.50											2.50										1.00	5.50
Victoria	Ontonagon		.68									.34	.64		.49					.01	.16	1.16	.93						.12	.69			5.22
Wasepi	St. Joseph	.30	.60	.06								.02				.75							.40	.06					.13	1.13			3.45
Watersmeet	Ontonagon	.05	.60							T.		.35	1.10		.49	.19	T.			T.	.80	2.40	2.38							.28			9.24
Webberville	Grand		.21											.12		.21						1.21		.46					.10			.06	2.37
West Branch	Lake		.43							1.20	T.										T.		1.60						.25	T.			2.88
Wetmore	do		.05									.10		.05	.10			.10				.05	.10						.25				0.80
Whitefish Point	do		.41										1.74	.02		.12	.02	.16	.07		.19	.91	.26	T.					.06	.17			4.13
Woodlawn	Au Sable		.18							.05	T.	.04	.09						.11		.14	.60	.04		1.10				.50	.06			2.91
Ypsilanti	Huron		.02	.12								T.	.07		.02	.21							.07	.05						2.17			2.73
Ohio.																																	
Akron	Lake		T.									.03	.36	.25	.01	.39	.98			.02				.04	.17	.13		.01		.33	.14	T.	2.86
Benton Ridge	Maumee	T.		.20								T.	.21				.52						.96	.18	.02		T.		.03	.25			2.37
Bowling Green	Lake	T.											.80			.82			T.				T.	.15						.68			2.45
Bucyrus	Sandusky												.25	.40	T.	.05	.10		T.					.60	.15			.20		.03	.10		1.88
Cleveland (1)	Lake		T.									.54	.87		.07	.26			T.			T.	.76	.23	T.		.02	.02		.35	T.		3.12
Cleveland (2)	do											.64	.83		.11	.15							.90	.40			.04	T.		.51	T.		3.58
Defiance	Maumee		.52	.09		T.							.06	1.07	T.		.15		.02				.06	.04				T.		.01	.09		2.11
Findlay	do		.10	.13		T.							.11	.15	.12		.23		.01				.51	.19				T.		.12			1.67
Fremont	Sandusky	.43	.08									T.	.33			1.65			.20				11	T.					2.68				5.48
Hedges	Maumee					.06						.12	.52			.27							.08	.11						.09	.06			1.31
Hillhouse	Lake											.14	.20	.66	.37		.16		T.				.30	.74	.26	.06		T.		.35			3.24
Hiram	do											.15	.34	.12	.11		.41						.16	.32						1.09			2.70
Hudson	do											.12	.61	.20	.05	.10	.72						.25	.43	.15	.03		.06		1.74			4.46
Lima	Maumee			.20		.25						.12	1.01				.29		.36				.28	.13			T.						2.64
Medina	Lake											.28	.34		.17	1.06	.15		T.				.16	.24				.08		1.11			3.59
Montpelier	Maumee		.26									.07	.45			1.26		.05					.22	T.					.79	.43			3.53
Napoleon	do	.71										.05	.62		.03	.09	.01		T.				T.	.12						.86			2.49
New Bremen	do		.13			.40	.09					.18	1.25						.36				.75	.10			.08			T.		.05	3.39
North Royalton	Lake											.92	.28	.14	.25		1.13						.21	.70		.18		.09		1.60			5.50
Norwalk	do		.07	.02									.09	.41	.12	.03	.77		.17					.58	.09			.03		1.48	.42		4.28
Oberlin	do											.09	.62	.05		1.80	.36	.01					.03	.50	T.			.05		1.23			4.74
Ottawa	Maumee	T.										.25	.28			T.	.50		.04				.06	.14					.02	.02			1.31
Rocky Ridge	Lake	.29		.16								.06	1.40	.48		1.72	.62		T.				.05	.11						.49			5.38
Rome	do		T.									.41	1.07	.09	.64	T.		T.				T.	.33	.92	.08			.04		.53			4.11
Sandusky	do	.02	.02									.04	.49	.11		2.30			.08				.05	.05	T.		T.			3.36			6.52
Tiffin	Sandusky	.04	.05									T.	.39	T.	T.	.20	.58		T.				.19	.04	T.		T.		T.	.31		T.	1.80
Toledo (1)	Lake	.10	.18									T.	.21	1.54	.02	.27			.06		T.		.26	.24					.24	.55		T.	3.67
Toledo (2)	do	.07	T.	.16									.14	.98	.07	.76	.01		.02				.21	.21	.04					.62			3.29
Upper Sandusky	Sandusky	T.										T.	.35	.28			.37						T.	.45						T.		T.	1.45
Vickery	Lake	.17		.21								.01	.29	.30		2.64	.05		.06					.09						1.68			5.50
Wauseon	Maumee		.41	.14									.07	1.10			1.16		.07				.03	.18			T.			.51	.11		3.78
Wellington	Lake			.03								T.	.34	.50		.63	.20		.14			.06	.31				.06			2.05			4.32
Willoughby	do												.86	.60	.16						.68	.43				.04							2.77
Pennsylvania.																																	
Erie	Lake	T.										.28	.49		T.	T.	T.	.13	T.			T.	.21	.66	.01			.05		.26	.37		2.46
New York.																																	
Adams Center	Ontario			.78	.05	.07				.15	.95	.13				.11	.14	.71	.27			.07	.83	.78	.03							.07	5.14
Angelica	Genesee			.01							.03	.04	.15	.01		.22		.43	.01			.23	.05	.19			T.			T.			1.37
Appleton	Ontario		T.	.64					T.	.50	.44	.05		T.	T.			.22			T.	.02	.35	.62	.37				T.				3.21
Auburn	Oswego		T.	.59							.30	T.				T.		.46	.10	T.	T.	.20	.28	.63					.10	.04			2.61
Avon	Genesee			.26							.90	.26	T.			T.		.38			T.	.41	.45	.50	.22	T.				.14			3.52
Benson Mines	St. Lawrence																																
Blue Mountain Lake	do																																

TABLE 2.—*Daily precipitation for July, 1909. District No. 4*—Continued.

Stations.	River basin.	Day of month.																													Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New York—Cont'd.																																	
Brockport	Ontario		T.	.26								1.66	.46	.10	.01		1.20		.14			.01	.35	.55	.10	.60					.04		5.48
Buffalo	Erie		.06	T.								.45	.59	.01			T.		.32			.04	.51	.33	.09				T.	.09		2.49
Canton	St. Lawrence		.07	.19	.03		.03				.38	.02	T.	.08			.49	.07	.71	.11			.08	.64	.26	.07				.12	T.	T.	3.35
Cape Vincent	do			.28	.01							.45	.33	.22			.20		.50	.03			.12	.68	.86					.01		.25	3.94
Carvers Falls	Champlain			.60		.01										.03	.02		.41					.14	.17							.32	1.70
Chazy	do			.45			T.										.08		.12	.15					.15					.05		T.	1.00
Dannemora	do			.45	T.		.30				T.	.65	T.			T.	.15	T.	.20	.78				.12	.42	.05				T.	T.	T.	3.12
Elba	Ontario			.14								1.36	.33	.08			.90		.24	T.		T.	.35	.53	.25	.45				T.	.20		4.83
Faust	St. Lawrence			.50	.05	.04	.18				.77	.02	.03				.38	.13	.29	.15			.05	.26	.16	.06					.14	.34	3.55
Fayetteville	Oswego		T.	.32								.32	T.				.36		.14	.05			T.	.84	.34	.13				T.			2.50
Gabriels	Champlain	.50		.56			.18				T.	.71	.42				.20	.10	.59	.54			.12	.14	.12					T.	.42	.12	4.72
Harkness	do			.25			.08				T.	.36					.53		.14	1.14				.06	.06						T.	.02	2.64
Hemlock Lake	Genesee		.46									.72							.07				.45		.51				.23			2.44
Hunt	do		.06									1.13							.26	.06		.05	.49	.11	.25							2.41
Ithaca	Oswego		T.	.05									.01		T.	.09	.16		.13	T.		.02	.16	.22	.65	.02			.11			1.62
Keene Valley	Champlain	.32		.31			.08				T.	.21	T.				.19	.10	.73	.19	.11			.21	.48						.15	.18	3.26
Keuka Park	Oswego			.11	T.							T.	T.		T.		.02		.23	.02		T.	.23	.25	.17	.09			.03				1.15
King Ferry	do		.32													.30	.07		.15	.04			.07	.42	.25				.45	.03		2.10
Lake George	Champlain			.73		.04					T.	T.				.55	.10	.02	.19				T.	.21	.31							2.13
Lake Placid Club	do	.26	.05	.05	.56	T.	.41				.28	.48	T.	.03			.91	.42	.51	.31	.04		T.	.32	.05	.07				.06	.04	.35	5.20
Le Roy	Genesee		T.	.30								1.64	.29	.07	.03		.12		.64	.07		.02	.43	.11	.52				.15	.07		4.46
Lockport	Ontario		T.	.04							T.	.35	.77	.63			1.56		.22			T.	.21	.87	.43	.47				T.	.14		5.69
Lowville	do			.28								.36					.11	.20	.15	.48				.62	.32					T.	.12	.08	2.72
Lyndonville	do			.52								.62							.38						1.45	.55							3.52
Moira	St. Lawrence		T.	.36		T.					T.	T.	T.				.60	.05	.53	.67			T.	.53	.14	T.	.01			.06		.10	3.05
Nehasane	Ontario			.75	.03	.17	.02					.49	.04				.18	.16	.35	.83	T.		.02	.43	.68	.05				.02	.28	.18	4.68
North Hammond	St. Lawrence																																
North Lake	Ontario			1.07								.16					.66	.28		.47				.85	.75	.25							4.49
Ogdensburg	St Lawrence			.32	T.			.03				.14		.08	T.		.44	.03	.71	.54			.09	.80	.35	.04	T.			.39			3.96
Old Forge	Ontario			.73	.02							.47	.03		.07		.36		.84	.30			.05	.56	.38	.26				.25		.03	4.35
Oswego	do		.07	.40							.22	.24	.50			T.	T.		.09	T.		T.	.04	2.25	.58				T.	T.		4.39
Otto	Erie																																
Palermo	Oswego		T.	.42							.10	.02	.50				.03		.13	.01			.50	.02	T.				T.	.10			1.83
Perry	do												.03		T.	.68	.04		.08			T.	.15	.58	.08	.05				.07			1.76
Philadelphia	St. Lawrence			.59	T.	.06	T.				.41	.78	.14				.19	.23	.37	.31				.90	.28	.25				.03		.22	4.76
Plattsburg	Champlain																		.10	.67				.02	.01							.01	
Potsdam	St. Lawrence	T.		.39			.01				.13	.07		T.			.69	.08	.71	.65					.82				.13			.06	3.74
Raquette Lake	do																																
Rochester	Genesee			.25	.07						T.	.80	.33				.16		.13			.07	.50	.66	.45	.06		T.	T.	T.	.01		3.49
Romulus	Oswego																																
Scottsville	Genesee		.27									1.05	.30					.10	.67				.52	.35	.50	.52							4.28
Shortsville	Oswego		T.	.27								.93	.53		.09		.16		.21			T.	.17	.42	.35	.15				.12	.05		3.45
Skaneateles	do		T.	.42							T.	.45				T.	.05	T.	1.06	.05			T.	.08	.84	.30				.02	T.		3.27
Syracuse	do		.01	.19							T.	.05	T.		T.		.22		.22				.01	.67	.31	.04		T.		T.			1.72
Ticonderoga	Champlain			.35			.69										T.	T.	.50	.10				.09	.22							.25	2.20
Trudeau	do																																
Volusia	Erie			.25								.07	.44					.28	T.			T.	.18	1.23					.16			2.61
Watertown	Ontario	T.		.38							.45	.27	.05				.09	.06	.43	.15			.01	.86	.45	.06				.05		.29	3.60
Wedgwood	Oswego												.02			T.	.15	.04	.18				.16	.50	.08								1.13
Westfield	Erie											.65	.54		T.		T.	.21	T.			T.	.39	T.	1.06			T.		T.			2.85
Youngstown	Ontario		.11									.76	.52			.11			.19			T.	.23	.70	.32			.05		.13			3.12
Vermont.																																	
Burlington	Champlain		.05	.51			.15		.01		.20	.04	T.	T.	T.		.34	.09	1.60	.89				.05	.11	.01					T.	.01	4.06
Cornwall	do	T.		.55			.10				T.	.15		T.			.39	.03	.31	.49				.10	.22	T.				T.	.05	.40	2.79
Enosburg Falls	do		.02	.32	.21		.26				T.	.18	T.			T.	.15	.01	.09	.43	.01			.02	.38	.04				.13	.84	.01	3.10
Northfield	do		T.	.61	.02		.16				.15	.10				T.	.44	.12	.23	.02			T.	.05	.13	.01					.56	.03	2.53
Wells	do		.05	.77		T.	.11								T.	T.	.05	.23	.08	.16				.05	.12	.05					T.	.09	1.76

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 4, Lake Region.*

Date.	Duluth, Minn.		Wisconsin.						Chicago, Ill.		Fort Wayne, Ind.		Michigan.															
			Florence.		Green Bay.		Milwaukee.						Alpena.		Battle Creek.		Cadillac.		Detroit.		Escanaba.		Ewen.		Houghton.		Marquette.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	82	60	84	60	84	66	78	65	75	70	93	61	82	61	85	63	87	72	85	66	80	61	80	42	78	60	71	59
2...	62	49	72	53	89	54	91	56	91	59	90	59	64	52	85	56	76	53	80	60	69	49	81	52	65	48	67	46
3...	64	46	65	40	70	50	64	53	63	55	81	59	68	48	73	55	67	49	70	55	65	46	74	53	64	47	69	46
4...	71	52	77	40	68	50	65	53	63	58	75	49	73	43	70	46	74	42	73	54	68	46	74	37	73	51	71	50
5...	76	55	77	49	73	50	66	56	65	59	67	58	75	47	77	50	80	46	75	60	68	50	78	43	77	54	71	54
6...	66	52	82	47	77	52	69	57	66	59	78	56	75	49	89	51	85	50	78	60	72	52	82	42	72	53	66	50
7...	65	50	81	48	80	59	76	60	74	63	83	58	75	49	81	55	84	55	77	56	75	56	84	44	78	52	66	49
8...	70	51	84	59	81	58	76	60	76	64	85	53	80	52	81	51	86	50	79	53	73	54	83	50	83	56	82	62
9...	83	59	81	60	87	59	86	62	88	66	90	55	78	55	87	53	84	50	84	62	76	57	84	64	84	59	89	61
10...	81	58	79	51	87	67	82	72	85	71	86	63	85	60	86	65	82	65	85	60	81	64	79	52	77	58	75	62
11...	65	48	74	60	83	63	78	66	80	70	89	62	72	57	85	68	82	62	83	69	74	63	80	41	76	55	78	59
12...	72	49	81	64	82	67	83	69	84	70	91	63	85	62	87	60	76	66	90	67	80	63	74	48	62	51	73	61
13...	74	55	79	59	84	62	75	65	84	66	86	62	77	60	83	62	83	58	78	64	75	59	80	49	74	58	68	55
14...	65	52	74	60	86	63	85	64	85	68	88	63	78	54	85	58	87	56	81	67	69	58	81	50	71	56	66	54
15...	73	57	69	53	81	60	83	68	86	71	88	65	81	60	81	62	81	61	82	66	78	58	72	55	71	58	75	59
16...	72	55	79	45	76	58	80	62	80	65	83	62	72	54	78	60	77	57	78	62	70	54	75	52	69	55	66	53
17...	81	57	.....	.....	84	56	77	61	85	66	83	56	79	48	80	52	80	46	80	56	73	49	79	42	79	54	75	55
18...	66	52	.....	.....	72	55	72	58	75	64	80	64	71	55	75	54	72	52	74	60	71	52	78	41	68	49	63	55
19...	58	51	72	39	75	50	70	54	69	63	78	49	78	48	78	48	81	48	76	55	73	49	72	43	75	48	66	55
20...	84	55	74	57	84	61	83	60	82	65	83	50	74	51	81	50	80	.....	78	63	65	57	72	53	75	59	67	59
21...	75	58	75	64	85	68	87	63	87	65	87	54	83	61	85	57	81	56	83	68	69	62	69	53	75	65	74	63
22...	74	58	74	57	82	61	81	62	85	64	86	64	84	64	80	65	82	66	81	65	70	57	70	55	66	56	68	55
23...	74	57	79	52	74	59	76	60	72	63	80	61	71	58	78	59	73	58	70	58	71	57	70	45	71	56	69	55
24...	80	56	78	49	82	55	79	57	78	59	83	51	78	53	78	52	78	52	78	55	80	56	76	49	77	55	76	59
25...	78	63	82	50	85	58	84	62	85	65	86	50	85	55	83	52	85	54	82	58	74	55	81	52	82	60	83	65
26...	72	59	80	58	81	63	75	64	76	67	81	58	85	58	81	60	84	60	80	65	76	62	81	50	82	62	83	62
27...	72	62	77	51	79	58	72	62	74	65	79	63	79	57	81	61	88	57	79	68	76	58	85	52	80	60	78	62
28...	84	58	81	58	85	63	84	66	90	72	90	64	83	64	90	62	94	55	86	68	73	66	80	51	85	60	81	65
29...	80	62	82	65	95	70	95	74	92	77	87	74	93	64	87	70	90	70	85	70	87	62	79	49	77	63	80	67
30...	79	56	80	53	87	65	79	67	79	69	89	64	82	58	88	65	85	59	84	68	79	59	82	54	78	60	73	61
31...	69	54	81	50	82	61	79	67	79	72	80	64	79	60	85	65	88	56	81	67	75	60	80	49	71	56	72	58
Mns	73.1	54.9	77.6[b]	53.5[b]	81.3	59.4	78.4	62.1	79.1	65.5	84.1	59.2	78.2	55.4	81.7	57.6	81.7	56.0[a]	79.8	62.3	73.7	56.5	77.9	48.8	74.7	55.9	72.6	57.3

Date.	Michigan.						Ohio.								Erie, Pa.		New York.								Vermont.			
	Muskegon.		Saginaw, W. S.		Sault Ste. Marie		Cleveland.		Lima.		Sandusky.		Toledo.				Buffalo.		Canton.		Rochester.		Syracuse.		Burlington.		Northfield.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	81	67	87	66	72	51	75	64	87	60	81	65	84	69	75	67	72	67	81	62	82	67	79	67	77	59	75	54
2...	79	59	78	55	57	49	80	66	85	60	86	67	84	63	75	60	70	61	68	52	73	59	70	58	64	55	64	48
3...	68	52	71	50	57	46	72	58	80	60	73	60	70	57	75	56	70	55	60	52	64	55	63	54	59	53	64	52
4...	71	49	74	45	65	46	65	57	77	56	70	60	72	54	67	55	67	52	69	47	69	53	63	53	67	53	64	44
5...	75	47	81	47	76	54	70	52	73	50	73	57	75	59	71	52	68	57	73	50	77	50	74	54	71	50	69	42
6...	77	52	80	53	77	51	71	58	76	56	73	59	75	58	73	57	77	59	73	48	75	53	74	56	70	52	69	44
7...	84	52	81	56	80	53	73	63	82	60	74	67	76	57	74	59	76	56	76	45	77	52	74	52	73	47	72	39
8...	85	54	85	49	82	51	75	59	83	55	76	62	77	58	76	55	73	63	70	49	79	55	74	59	65	54	64	46
9...	84	56	89	54	58	56	82	58	85	57	81	62	86	66	79	59	80	58	78	42	84	54	80	50	75	45	75	39
10...	80	68	89	67	73	56	87	65	85	65	90	66	87	66	86	70	80	70	78	53	85	61	83	64	77	56	80	44
11...	78	51	90	68	80	51	80	66	79	68	84	70	83	69	82	70	83	66	83	66	85	66	86	66	79	58	82	59
12...	82	62	88	70	76	49	91	67	90	67	93	68	90	67	89	67	78	68	83	69	89	67	87	68	84	68	85	61
13...	79	64	83	59	75	51	76	67	83	64	78	66	77	61	75	66	71	68	79	62	77	64	81	65	84	65	85	64
14...	84	66	87	64	79	50	82	67	85	66	82	67	85	67	80	63	80	63	83	58	83	60	83	60	83	61	80	56
15...	79	63	80	64	76	56	81	63	85	65	85	65	84	61	80	68	78	69	88	58	87	65	88	63	88	60	86	51
16...	76	64	83	58	63	51	76	66	80	65	79	63	80	64	76	68	75	68	76	61	80	65	78	60	76	59	78	56
17...	79	50	82	50	75	51	72	64	76	58	77	64	79	58	71	63	73	61	77	59	75	61	72	60	74	60	72	54
18...	75	61	78	58	66	49	72	64	78	61	74	64	75	61	71	62	70	59	68	54	71	58	67	55	73	57	71	48
19...	69	49	82	48	71	50	69	62	75	57	73	63	76	55	72	59	69	56	71	52	72	57	69	56	68	54	64	48
20...	75	52	82	52	66	51	73	54	79	51	77	58	81	59	74	55	73	57	74	53	78	53	74	56	73	51	69	45
21...	75	61	87	66	73	58	82	64	85	71	86	65	85	66	73	61	69	60	79	49	77	54	77	53	77	50	78	44
22...	78	60	84	65	71	60	83	62	83	63	85	64	83	65	81	65	76	67	76	60	72	62	71	62	78	55	79	49
23...	69	57	77	59	71	54	70	60	72	61	68	63	73	60	72	55	71	52	66	61	79	58	71	59	73	61	65	59
24...	70	57	82	55	66	50	72	62	77	55	77	58	77	56	70	56	71	52	66	54	71	54	71	54	68	58	66	50
25...	70	60	86	54	80	52	75	58	78	51	79	59	83	60	76	61	70	58	77	54	79	55	75	54	74	57	72	51
26...	80	61	86	58	80	55	79	60	80	52	81	61	82	64	80	59	82	64	81	60	84	60	82	64	83	62	82	54
27...	78	57	88	58	84	54	76	64	75	62	78	65	80	64	80	65	83	68	83	61	85	63	84	65	83	63	83	52
28...	84	69	91	63	78	60	87	67	88	65	90	66	89	66	82	67	82	70	86	60	85	64	87	68	86	62	85	54
29...	85	70	92	71	79	57	85	70	88	76	88	70	87	70	80	70	76	72	76	71	83	73	85	72	83	71	86	59
30...	84	66	87	64	78	56	77	70	88	67	80	70	84	70	77	68	79	69	79	59	83	67	79	65	80	64	83	56
31...	81	64	88	60	75	54	73	68	80	66	77	67	80	68	77	65	78	65	77	54	82	61	81	61	76	53	76	50
Mns	78.5	58.4	83.8	58.3	73.5	52.4	76.8	62.7	81.2	61.0	79.6	63.9	80.6	62.5	76.4	62.0	74.8	62.3	75.9	56.0	78.8	59 5	76.9	59.8	75.5	57.2	74.9	50.7

Climatological Data for July, 1909.

DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

TEMPERATURE.

In comparing the mean temperature and the average total rainfall of the district with the normals for July, it would seem as if the climatic conditions during the past month had been about the same as the average for July; but, in studying the data as shown by the reports from the various States in the district, it is found that, in certain localities and at various times in the month, the conditions varied materially from the normal. From the 3d to the 7th the temperature was unseasonably low, and from the 3d to the 14th the rainfall was heavy and, in many places, excessive, especially over Minnesota, southern Iowa, Missouri and central, and southern Illinois. The rainfall was also excessively heavy in parts of Minnesota on the 20th and the 21st. The month opened with an area of high pressure, central over Minnesota and eastern Dakotas, which caused fair weather over the district and slightly lower temperature over the extreme northern portion of the Mississippi Valley. On the 2d, a disturbance, or low pressure area, appeared over Minnesota, which was followed on the 3d by another area of high pressure accompanied by much lower temperature which continued during the 4th and 5th, and extended over the whole of the district. The temperature was abnormally low in the Northern States on the 3d,and from central Iowa northeastward over Minnesota and Wisconsin on the 4th. A minimum temperature of 31° was recorded on the 3d at Sauk City, Wis., and the mean temperature on the 4th, at several stations in northeastern Iowa, was lower than ever before recorded since Weather Bureau stations were established. A minimum temperature of 33° was recorded on the 4th at Koepenick, Wis., and on the 19th at Long Lake, Wis., with killing frosts over the northern counties of the same State.

The monthly temperature for the district, as shown by the records of 301 stations, was 70.6°, which is 1.1° below normal. The highest monthly mean was 79.0° at Cairo, Ill., and the lowest monthly mean, 62.7° at Vudesare, Wis. The highest temperature reported was 103° at Prairie du Chien, Wis., on the 29th; the lowest temperature reported was 31° at Sauk City, Wis., on the 3d. The average monthly maximum was 93°, and the average monthly minimum was 49°. The greatest daily range was 57° at Sauk City, Wis. The average of the greatest daily ranges was 34°.

PRECIPITATION.

The heavy rainfall between the 3d and 14th did considerable damage, especially in southern Iowa where the creeks and rivers were at flood stage. The bottom lands were flooded for the third time this season, and many thousand of acres of corn and other crops were washed or drowned out. Much of the small grain was ready for the harvester, but the ground was too wet for running machinery. There were 12 stations in Minnesota; 5 in Wisconsin; 12 in Illinois; 6 in Iowa; 4 in Missouri, and one in North Dakota, that reported 2.50 inches or more of rainfall in 24 consecutive hours at some time during the month. The following are some of the largest amounts given, viz: Milnor, N. Dak., 4.00 inches on the 21st; Bagley, Minn., 10.00 inches on the 20th; Beaulieu, Minn., 10.75 inches on the 20th; Fosston, Minn., 8.97 inches on the 19th; Minneapolis, Minn., 3.75 inches on the 11th; Park Rapids, Minn., 4.17 inches on the 20th; Grantsburg, Wis., 3.00 inches on the 21st; Merrill, Wis., 2.51 inches on the 10th; Vudesare, Wis., 3.85 inches on the 20th; Benton, Ill., 3.50 inches on the 11th; Chester, Ill., 3.20 inches on the 27th; Cobden, Ill., 6.15 inches on the 27th; Knoxville, Ill., 4.60 inches on the 6–7th; Windsor, Ill., 4.61 inches on the 5–6th; Bloomfield, Iowa, 3.25 inches on the 6th; Fairfield, Iowa, 2.75 inches on the 6th; Gilman, Iowa, 3.13 inches on the 6th; Goin, Mo., 4.50 inches on the 6th; and Sublett, Mo., 3.50 inches on the 5th. At Minneapolis, Minn., on the 11th, 0.93 inch fell in one hour, 1.54 inches in two hours, and 2.63 inches in two hours and fifty-five minutes. At Springfield, Ill., on the 6th, 0.60 inch fell in twenty minutes and 0.81 inch in twenty-five minutes. On the 11th, 0.73 inch fell in fifteen minutes and 0.95 in twenty-five minutes. On the 12th, 0.52 inch fell in fifteen minutes.

The average precipitation for the district, as shown by the records of 315 stations, was 3.60 inches, which is 0.45 inch below the normal. The greatest amount, 15.12 inches, occurred at Bagley,, Minn., and the least, 0.09 inch, at Lake Mills, Wis. The greatest amount in twenty-four hours, 10.75 inches, occurred at Beaulieu, Minn., on the 20th. Measurable precipitation occurred on an average of 8 days.

Sunshine and cloudiness.—The average number of clear days was 15; partly cloudy, 9; cloudy, 7.

Wind.—Southwest winds prevailed.

The conditions were more seasonable during the latter half of the month. The temperature was generally higher and the rainfall came in the form of light and scattered showers, although the precipitation was heavy from the 19th to the 21st in portions of Minnesota and Wisconsin, and on the 27th in parts of Illinois. The month closed with much higher temperature; the 29th being the warmest day of the month over the larger part of the district, when maximum temperatures were generally above 90° and, at several stations, above 100°, the highest being 103° at Prairie du Chien, Wis.

While thunderstorms were of frequent occurrence, the total number for the district was not as great as is usual during July, and the amount of loss was correspondingly small. The only severe windstorms reported were in Illinois. The following is quoted from the report of the Illinois section: "On Sunday afternoon of the 11th, a violent storm, with tornadic characteristics, passed through central Illinois in a southeasterly direction. Its most distinctive manifestations occurred in the vicinity of Pana, Christian County. It was accompanied by a deluge of rain and the wind unroofed houses, uprooted trees, and telephone and telegraph poles were snapped in two. Another destructive storm passed over Alton, on the Mississippi River, on the 12th."

Slight earthquake shocks were felt at a number of stations in Illinois and southeastern Iowa about 10:30 p. m. of the 18th.

TABLE 1.—*Climatological data for July, 1909. District No. 5, Upper Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota.																				
Amenia	Cass	951	11	69.9	+ 2.5	96	19	50	5†	39	2.99	− 0.79	1.15	0.0	6	18	6	7	s.	C. E. Wood.
Bottineau	Bottineau	1,638	13	65.3	− 0.6	86	31	44	10	31	4.57	+ 2.35	0.75	0.0	12	7	14	10	se.	J. A. Kamp.
Cando	Towner	1,488	7	65.1[c]	+ 0.9	85[c]	20†	43[c]	3†	35[c]	3.42	− 0.40	1.60	0.0	9	.....	.....	.....	.....	E. T. Judd.
Crosby	Williams	.....	2	67.6	.....	94	24	42	10	38	1.11	.....	0.30	0.0	8	19	5	7	w.	B. Lancaster.
Devils Lake	Ramsey	1,482	3	66.9	− 1.2	89	31	47	3	31	2.56	− 1.22	0.96	0.0	11	12	13	6	w.	U. S. Weather Bureau.
Donnybrook	Ward	1,760	9	39.2[b]	+ 4.7	97[b]	25	42[b]	10	43[b]	1.07	− 1.97	0.37	0.0	4	.....	.....	.....	.....	F. S. Gieselman.
Dunseith	Rolette	.....	11	65.6	+ 0.4	89	31	47	6	36	3.32	+ 0.86	0.73	0.0	7	20	7	4	s.	L. H. Trowbridge.
Edmore	Ramsey	1,524	3	67.4	.....	90	25	45	3	37	2.54	.....	0.80	0.0	9	13	17	1	se.	H. R. Aslakson.
Forman	Sargent	1,249	14	70.4	+ 1.5	95	20	52	15†	30	4.55	+ 1.90	2.39	0.0	12	13	13	5	nw.	A. Maltby.
Grafton	Walsh	827	11	68.1	+ 1.0	87	31	46	3	30	5.45	+ 3.46	1.69	0.0	8	9	18	4	s.	H. Lamoure.
Granville	McHenry	1,504	2	67.2[c]	.....	92[c]	31	44[c]	23	38[c]	1.06	.....	0.22	0.0	10	.....	.....	.....	nw.	W. A. Christiansen.
Hamilton	Pembina	824	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. Wallace.
Hannah	Cavalier	1,568	3	65.4[c]	.....	87[c]	31	42[c]	23	41[c]	2.92	.....	1.01	0.0	7	.....	.....	.....	.....	J. Moffatt.
Hansboro	Towner	.....	1	65.4	.....	89	31	41	3	37	2.00	.....	0.75	0.0	7	23	3	5	se.	Geo. Dale.
Hillsboro	Traill	901	3	69.4	.....	91	19	48	3	32	1.69	.....	0.79	0.0	6	14	13	4	nw.	M. H. Norman.
Lakota	Nelson	1,519	2	64.6	.....	87	31	42[a]	23	35[a]	2.37	.....	0.80	0.0	9	10	20	1	se.	C. R. Pettes.
Langdon	Cavalier	1,615	13	65.8	.....	88	31	43	23	37	3.42	.....	0.77	0.0	7	17	0	14	se.	J. Woolner.
Larimore	Grand Forks	1,134	13	67.4[c]	+ 1.3	96[c]	31	44[c]	3	38[c]	1.93	− 1.28	0.78	0.0	12	.....	.....	.....	.....	M. Naylor.
Lisbon	Ransom	1,091	4	68.3	.....	92	19	49	10†	35	6.82	.....	2.34	0.0	12	17	7	7	se.	H. K. Adams.
McKinney	Ward	1,640	14	66.1	+ 2.5	93	25	38	8	44	0.86	− 1.31	0.30	0.0	3	11	16	4	nw.	M. P. Swenson.
Manfred	Wells	1,605	7	67.8	.....	92	20	45	3	38	2.78	.....	0.87	0.0	6	13	16	2	se.	P. B. Anderson.
Mayville	Traill	975	13	67.8	− 0.1	91	19†	46	5	36	2.35	− 1.17	1.10	0.0	8	20	0	11	s.	M. N. Pope.
Milnor	Sargent	.....	1	64.9	.....	90	1†	50	3†	40	5.90	.....	4.00	0.0	4	14	10	7	nw.	O. B. Jorgenson.
Minot	Ward	1,557	10	67.0	− 1.6	91	31	41	10	37	1.47	− 0.28	0.50	0.0	9	15	3	13	e.	J. J. Bates.
Minto	Walsh	820	15	68.2	+ 1.2	91	31	45	3	34	4.39	+ 1.52	2.05	0.0	8	11	11	9	e.	S. S. Marsh.
Oriska	Barnes	1,270	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. E. Williams.
Park River	Walsh	998	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Heyward.
Pembina	Pembina	789	10	67.2	+ 1.1	88	17	48	3	23	1.90	− 0.99	0.59	0.0	8	16	1	14	e.	F. C. Warner.
Portal	Ward	1,954	14	67.8	+ 2.2	96	25	40	1	42	2.15	+ 0.17	1.95	0.0	3	13	0	18	se.	M. S. Davis.
Power	Richland	1,020	16	67.7	− 1.0	92	19	47	23	31	5.36	− 1.86	2.50	0.0	8	15	12	4	se.	J. A. Power.
Pratt	McHenry	.....	4	67.4	.....	89	25	42	3	38	1.13	.....	0.55	0.0	6	24	4	3	nw.	C. H. Butts.
Towner	...do	1,475	2	67.0	.....	89	31	46	3†	39	2.84	.....	0.68	0.0	7	15	15	1	sw.	B. Bagley.
University	Grand Forks	830	17	68.4	+ 1.4	90	19†	45	3	36	0.96	− 1.53	0.32	0.0	8	.....	.....	.....	s.	G. W. Stewart.
Wahpeton	Richland	962	17	67.9	− 2.1	91	19	47	25	32	3.56	− 0.59	1.79	0.0	5	16	9	6	se.	E. G. Burch.
Walhalla	Pembina	966	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. L. Howard.
Westhope	Bottineau	.....	2	65.4[b]	.....	90[b]	31	45[b]	3	37[b]	2.75	.....	0.78	0.0	10	16	0	15	.....	J. D. Currie.
Willow City	...do	1,471	15	66.0	+ 0.5	89	31	42	16	43	3.05	+ 0.78	1.44	0.0	7	8	20	3	se.	M. A. Ostby.
Minnesota.																				
Albert Lea	Freeborn	1,229	19	71.5[i]	+ 0.2	96[i]	2	51[i]	5	37[i]	1.35	− 2.56	0.70	0.0	....	9	10	3	se.	Edward Carey.
Alexandria	Douglas	1,391	15	69.8	+ 0.8	94	20	52	3†	34	1.13	− 2.21	0.58	0.0	4	16	7	8	nw.	P. O. Unumb.
Angus	Polk	870	7	67.4	.....	87	20†	46	3	33	4.88	.....	3.11	0.0	12	16	14	1	s.	F. A. Wilson.
Bagley	Clearwater	.....	3	66.2	.....	87	19	39	3	41	15.12	.....	10.00	0.0	12	14	13	4	se.	Edward T. Teitsworth.
Baudette	Beltrami	.....	.....	66.5	.....	88	7	41	3	42	6.46	.....	3.75	0.0	9	17	8	6	sw.	Franz W. Schmidt.
Beardsley	Bigstone	1,090	16	69.6[a]	+ 0.3	92[a]	20	47[a]	30	36[a]	3.24	− 0.41	1.52	0.0	9	5	19	7	se.	Roy A. Smith.
Beaulieu	Mahnomen	1,200	7	68.4	.....	89	1†	44	3	38	14.43	.....	10.75	0.0	9	13	8	10	se.	Dr. L. A. Parkinson.
Bird Island	Renville	1,039	19	70.6	0.0	92	28	52	27	34	1.34	− 1.92	0.52	0.0	6	16	11	4	se.	Dr. F. L. Puffer.
Caledonia	Houston	1,179	16	70.7	− 0.2	91	29	52	19	32	0.76	− 3.45	0.65	0.0	3	9	18	4	sw.	W. D. Bedlen.
Campbell	Wilkin	984	.....	68.0	.....	93	20	50	4†	38	4.12	.....	1.30	0.0	10	19	1	11	se.	J. T. Neiess.
Cass Lake	Cass	1,300	3	.....	.....	.....	.....	.....	.....	.....	5.20	.....	1.15	0.0	9	.....	.....	.....	.....	C. W. Burns.
Collegeville	Stearns	1,282	16	70.2	− 0.8	93	20	49	5	29	2.33	− 1.22	1.22	0.0	6	19	3	9	nw.	Fridolin Tennbreull.
Crookston	Polk	863	19	69.2	+ 1.0	89	19	50	3	28	3.90	+ 0.40	1.80	0.0	8	17	7	7	s.	A. G. Anderson.
Detroit	Becker	1,364	13	68.3	+ 1.2	98	19	45	3	37	7.10	+ 2.97	4.50	0.0	8	24	2	5	se.	G. W. Peoples.
Fairmont, (near)	Martin	753	22	70.4	− 0.8	92	2	53	4†	29	2.41	− 1.07	0.64	0.0	10	12	13	6	s.	W. F. Wheeland.
Faribault	Rice	1,003	12	69.4	− 0.9	92	2	50	3	34	1.46	− 2.88	0.60	0.0	5	21	7	3	nw.	A. R. T. Wylie.
Farmington	Dakota	902	21	71.4	+ 0.9	95	2	52	3	30	1.56	− 1.87	0.98	0.0	3	17	6	8	nw.	E. D. Akin.
Fergus Falls	Ottertail	1,210	17	69.6	− 0.2	92	20	53	15†	28	4.54	+ 0.71	2.50	0.0	9	13	17	1	se.	Chas. E. Kissenger.
Fort Ripley	Morrison	1,135	3	68.0	.....	92	20	43	3	41	2.58	.....	1.38	0.0	4	19	0	12	s.	J. J. Tucker.
Fosston	Polk	1,288	.....	67.8	.....	88	1	48	3	31	13.38	.....	8.97	0.0	8	.....	.....	.....	.....	O. N. Hem.
Glencoe	McLeod	1,006	13	70.4	+ 0.9	91	20†	52	3	35	1.83	− 1.33	1.30	0.0	4	15	14	2	sw.	C. G. Selvig.
Grand Meadow	Mower	1,338	22	69.8	− 0.8	93	1	50	4	33	0.75	− 3.24	0.28	0.0	4	16	11	4	sw.	C. F. Greening.
Hallock	Kitson	815	10	67.6	+ 1.7	86	31	48	3†	33	2.68	− 0.49	1.20	0.0	7	20	6	5	n.	D. A. Robertson.
Halstad	Norman	870	3	68.0	.....	91	19	46	3	33	3.59	.....	1.29	0.0	10	17	7	7	sw.	A. G. Holstrom.
Hinckley	Pine	1,050	4	71.8[c]	.....	90[a]	20	52[c]	6	34[c]	5.26	.....	2.10	0.0	6	10[a]	19[a]	1[a]	w.	W. R. Newman.
International Falls	Koochiching	.....	1	66.4	.....	88	2	38	3	37	2.42	.....	0.87	0.0	9	20	7	4	w.	Rees Roe.
Kelliher	Beltrami	.....	3	67.2	.....	88	31	42	5	41	3.80	.....	1.66	0.0	7	17	12	2	nw.	A. Gilmour.
Lake Crystal	Blue Earth	.....	2	70.2	.....	91	2	54	4†	31	1.64	.....	0.53	0.0	7	20	6	5	s.	W. P. Cobb.
Leech Lake Dam	Cass	1,300	21	66.7	− 0.2	87	7	43	5	42	5.88	+ 1.68	1.40	0.0	10	11	13	7	s.	Hans Olesen.
Litchfield	Meeker	1,129	1	67.8	.....	89	20	54	3†	24	3.03	.....	2.15	0.0	3	18	7	6	e.	N. Y. Taylor.
Little Falls	Morrison	1,117	3	71.0	.....	93	20	50	3†	32	3.00	.....	2.45	0.0	6	13	16	2	sw.	Maurice Coleman.
Long Prairie	Todd	1,299	17	69.0	+ 0.5	94	20	45	5	39	2.50	− 0.97	2.05	0.0	6	10	5	16	se.	A. W. Sheets.
Lynd (2)	Lyon	.....	17	69.2	− 0.9	93	2	51	30	36	2.15	− 0.89	1.88	0.0	6	18	5	8	nw.	Jacob Rouse.
Mankato	Blue Earth	747	10	.....	.....	.....	.....	.....	.....	.....	0.67	− 2.75	0.35	0.0	4	14	5	12	se.	Sadie H. Blake.
Milaca	Millelacs	1,072	12	67.4[a]	− 1.4	90[a]	20	43[a]	5	37[a]	3.73	− 1.00	1.88	0.0	5	15	11	4	nw.	C. H. Foss.
Milan	Chippewa	995	15	68.5	− 1.5	90	20	50	23†	35	2.16	− 1.06	1.24	0.0	7	1	25	5	se.	O. K. Opjorden.
Minneapolis (1)	Hennepin	918	18	71.6	− 0.3	92	2	54	3	32	5.03	+ 1.00	3.75	0.0	4	16	7	8	w.	U. S. Weather Bureau.
Minneapolis (2)	Hennepin	850	16	70.7	− 0.7	94	2	52	3†	...	5.40	+ 1.65	4.23	0.0	4	14	16	1	se.	J. H. Ashenbeck.
Montevideo	Chippewa	900	19	70.2	− 0.5	93	20†	53	10†	33	1.46	− 1.37	0.59	0.0	6	14	10	7	nw.	Lloyd G. Moyer,
Moorhead	Clay	935	28	69.0	+ 1.1	92	19	50	3	30	2.92	− 0.96	1.22	0.0	9	17	13	1	se.	U. S. Weather Bureau.
Mora	Kanabec	.....	4	68.0	.....	91	20	41	5	38	4.76	.....	2.48	0.0	7	24	6	1	w.	Hans Peterson.
Morris	Stevens	1,170	24	70.2	0.0	92	2	53	23	30	1.98	− 2.02	0.54	0.0	8	24	4	3	s.	D. T. Wheaton.
New London	Kandiyohi	1,215	15	68.0	− 2.9	92	20	54	5†	29	1.84	− 1.74	0.86	0.0	5	16	21	4	e.	Harold Swenson.
New Richland	Waseca	1,180	15	71.2	− 0.5	96	2	52	4†	34	0.69	.....	0.34	0.0	4	6	21	4	sw.	N. O. Tyrholm.
New Ulm	Brown	791	29	72.7	− 1.4	95	2	56	5†	33	1.96	− 1.71	0.90	0.0	4	17	1	13	s.	A. J. Eckstein.
Osakis	Douglas	1,343	2	68.4	.....	88	20†	50	5	33	1.40	.....	0.63	0.0	6	19	4	8	s.	John B. Johnson.
Park Rapids	Hubbard	1,426	19	68.7	+ 1.5	89	20†	49	5	35	8.00	+ 4.27	4.17	0.0	11	17	2	12	nw.	Dr. P. A. Walling.
Pine River Dam	Crow Wing	1,251	22	68.1	− 0.5	88	20	43	5	35	4.36	+ 0.86	1.60	0.0	5	16	12	3	se.	Neil McKay.
Pokegama Falls	Itasca	1,290	22	66.4	+ 0.6	87	2†	39	3	43	3.45	− 0.50	1.13	0.0	13	8	18	5	se.	Arthur L. Mampel.
Red Lake	Beltrami	.....	1	68.2	.....	84	7†	49	4†	33	5.95	.....	2.70	0.0	6	10	16	5	s.	A. C. Goddard.
Red Wing	Goodhue	708	20	71.8	− 0.3	92	2†	52	4	29	1.44	− 1.91	1.34	0.0	2	23	6	2	se.	F. A. Whittier.
Red Wing (river)	...do	680	10	.....	.....	.....	.....	.....	.....	.....	1.86	− 1.49	1.74	0.0	3	17	3	11	se.	Louis Bach.
Redwood Falls	Redwood	1,033	2	71.7	.....	94	20†	54	5	34	1.65	.....	0.51	0.0	5	18	8	5	se.	N. B. Andersen.
Reeds Landing	Wabasha	681	11	.....	.....	.....	.....	.....	.....	.....	1.46	− 2.31	1.42	0.0	3	20	1	10	se.	John Deschneau.
Rochester	Olmstead	991	5	69.8	.....	93	2	49	24	37	0.42	.....	0.18	0.0	4	12	5	14	se.	S. R. Case.
Roseau	Roseau	1,040	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Charles	Winona	850	18	70.2	− 0.1	94	2	47	3	35	0.80	− 2.70	0.55	0.0	4	20	5	6	nw.	S. W. Gleason.
St. Cloud	Sherburne	1,020	31	71.1	+ 0.3	93	20	50	3†	33	3.08	− 0.67	1.64	0.0	6	19	6	6	sw.	Jos. H. Capser.
St. Paul	Ramsey	837	38	70.8	− 1.1	92	2	55	5	32	3.66	+ 0.17	2.51	0.0	6	14	12	5	s.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1909. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Minnesota—Cont'd.																				
St. Peter	Nicollet	840	16	71.9	+ 0.4	94	2	52	24	35	1.24	− 2.79	0.88	0.0	5	25	3	3	s.	Charles A. Cavanaugh.
Sandy Lake Dam	Aitkin	1,234	16	67.8[d]	+ 0.8	87	28	45[d]	3	35[d]	7.01	+ 3.27	2.47	0.0	6	23	2	6	se.	J. W. Comstock.
Shakopee	Scott	750	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
State Sanitorium	Cass	.....	1	69.2	.....	87	20	51	3	33	9.33	.....	3.85	0.0	12	14	11	6	se.	Dr. W. J. Marcley.
Stillwater	Washington	694	4	.....	.....	.....	.....	.....	.....	.....	3.98	.....	1.82	0.0	7	13	1	17	sw.	W. B. Nease.
Taylors Falls	Chisago	.....	2	70.2	.....	92	20	45	3	37	5.09	.....	1.82	0.0	6	18	7	6	s.	Mpls. Gen. Elec. Co.
Wabasha [m]	Wabasha	662	17	71.2	− 1.1	96	2	49	4	36	.....	.....	.....	0.0	.....	.....	.....	.....	.....	Herman Yost.
Warroad	Roseau	.....	.....	66.6[e]	.....	86[b]	31	43[e]	1	40[e]	2.88	.....	2.02	0.0	8	19	7	4	w.	John Sawyer.
West Concord	Dodge	1,232	1	69.8	.....	92	2	49	3	31	0.22	.....	0.20	0.0	2	16	14	1	nw.	O. H. Orcutt.
Willow River	Pine	1,046	11	66.4	− 0.1	87	1	43	4†	39	4.55	+ 0.80	2.00	0.0	7	14	13	4	s.	J. A. Brandt.
Windom	Cottonwood	1,336	3	71.2	.....	94	2	50	24	34	2.63	.....	0.62	0.0	9	13	14	4	nw.	Taber C. Richmond.
Winnebago	Faribault	1,100	10	71.2	− 0.8	94	2	52	5	33	1.89	− 3.03	0.91	0.0	6	14	7	10	nw.	H. H. Haight.
Winnibigoshish	Itasca	1,300	21	69.2	+ 2.3	88	1	46	3	33	5.00	+ 0.98	1.61	0.0	9	19	7	5	w.	John Duncan.
Winona	Winona	680	14	73.6	+ 1.1	96	2	52	4	37	0.50	− 2.73	0.39	0.0	2	20	7	4	nw.	P. C. Meyers.
Worthington	Nobles	979	14	68.7	− 1.0	90	2	50	5	26	5.19	+ 0.76	1.70	0.0	8	18	3	10	s.	W. I. Carpenter.
Zumbrota	Goodhue	979	14	70.0	− 1.0	91	20	49	3†	35	1.07	.....	0.50	0.0	5	17	11	3	nw.	W. C. Rowell.
South Dakota.																				
Millbank	Grant	1,148	19	69.3	− 0.8	96	20	49	23†	37	2.18	− 0.49	0.60	0.0	10	18	3	10	sw.	T. T. Patridge.
Wisconsin.																				
Antigo	Langlade	1,489	14	66.8	− 0.8	85	1†	42	4†	38	2.72	.....	0.70	0.0	8	19	8	4	sw.	E. C. Larzeler.
Barron	Barron	1,115	16	68.7	+ 0.1	87	1†	42	4	38	2.96	− 1.19	1.72	0.0	6	17	14	0	sw.	W. A. Kent.
Beloit	Rock	750	19	71.2	− 1.9	95	29	50	4†	30	0.87	− 2.81	0.34	0.0	9	19	5	7	w.	Smith Observatory.
Brodhead	Green	812	11	72.2	− 0.9	99	29	45	19	37	0.85	− 4.81	0.50	0.0	4	24	4	3	sw.	H. D. Kirkpatrick.
Burnett	Dodge	880	5	68.4	.....	96	29	43	19	36	0.52	.....	0.32	0.0	3	13	15	3	se.	Geo. W. Smith.
Delavan	Walworth	920	16	69.4	− 2.7	98	29	43	4	36	1.94	− 2.61	0.89	0.0	8	16	7	8	sw.	E. S. Austin.
Dodgeville	Iowa	1,116	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Geo. H. Butler.
Downing	Dunn	983	6	67.5	+ 1.6	92	2	40	4†	40	4.96	+ 0.62	1.80	0.0	4	6	10	15	w.	E. F. Stoddard.
Eau Claire	Eau Claire	800	18	71.1	+ 0.5	93	2	50	4	34	2.20	− 1.22	1.17	0.0	4	18	7	6	w.	R. D. Whitford.
Ellsworth	Pierce	1,068	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. G. Woods.
Gliddon	Ashwood	1,519	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	.....	13	0	18	s.	George Sell.
Grand Rapids	Wood	1,021	10	69.7	+ 0.4	96	29	45	15	42	1.16	− 1.58	0.67	0.0	3	16	9	6	s.	W. B. Raymond.
Grantsburg	Burnett	1,095	18	68.6	− 0.1	92	2	41	5	39	5.75	+ 1.34	3.00	0.0	5	14	12	5	sw.	Theodore Olsen.
Hancock	Waushara	1,091	17	70.8	− 0.1	97	29	46	3	34	1.23	− 2.87	0.78	0.0	3	14	14	3	w.	F. B. Hamilton.
Hatfield	Jackson	973	1	.....	.....	95	2	.....	.....	.....	1.51	.....	1.27	0.0	3	12	12	7	w.	W. S. Woods.
Hayward	Sawyer	1,197	18	65.3[j]	− 1.8	86[j]	1	40[j]	3†	40[j]	3.55	− 0.14	.....	0.0	.....	10	6	5	w.	W. E. Swain.
Hillsboro	Vernon	1,000	18	67.8	− 1.6	97	29	40	19	43	0.96	− 2.74	0.48	0.0	3	11	19	1	sw.	E. V. Wernick.
Koepenick	Langlade	1,683	18	63.7	− 4.1	85	1†	33	4	44	2.90	− 0.86	0.51	0.0	12	.....	.....	.....	sw.	E. S. Koepenick.
La Crosse	La Crosse	714	37	71.0	− 1.6	96	2	52	24	34	0.66	− 3.41	0.56	0.0	5	10	11	10	s.	U. S. Weather Bureau.
Lake Mills	Jefferson	897	18	70.3	− 1.0	99	29	47	3†	35	0.09	− 4.38	0.06	0.0	2	12	14	5	se.	S. N. D. Smith.
Lancaster	Grant	1,070	19	72.4[l]	+ 1.2	97[l]	29	47[l]	19	33[l]	1.55	− 2.72	0.58	0.0	4	12	4	3	s.	Edward Pollock.
Long Lake	Oneida	1,592	1	63.4	.....	84	1†	33	19	42	5.32	.....	1.22	0.0	10	15	7	9	n.	Louie Frank.
Madison	Dane	974	31	70.4	− 2.0	95	29	53	4	32	0.29	− 3.70	0.13	0.0	4	10	14	7	sw.	U. S. Weather Bureau.
Mather	Juneau	962	.....	67.4	.....	96	29	40	19	46	1.82	.....	0.94	0.0	3	6	12	13	w.	Frank Evans.
Mauston	...do	882	13	69.0	− 1.4	95	29	45	24	38	2.92	− 1.64	2.50	0.0	3	32	7	2	se.	E. L. Hitchcock.
Meadow Valley	...do	974	18	68.8	− 0.5	95	29	41	3	44	1.32	− 2.78	0.96	0.0	4	3	25	3	se.	C. H. Johnson.
Medford	Taylor	1,420	18	69.8	+ 1.0	91	2†	44	3†	41	3.37	− 0.75	1.15	0.0	6	17	9	5	w.	William Zeit.
Merrill	Lincoln	1,267	3	.....	.....	93	2†	.....	.....	.....	5.44	.....	2.51	0.0	9	19	7	5	w.	F. M. McElroy.
Minocana	Oneida	1,604	5	66.5	.....	85	6†	45	3†	34	.....	.....	.....	0.0	.....	16	11	4	w.	Charles W. Hooper.
Mondovi	Buffalo	738	1	69.4	.....	92	2	46	3†	37	1.39	.....	1.04	0.0	4	22	5	4	nw.	Dr. Charles Hebard.
Mount Horeb	Dane	1,226	5	70.4	.....	98	29	46	4	31	0.61	.....	0.30	0.0	4	19	7	5	w.	W. M. Lewis.
Muscoda	Grant	666	.....	71.8	.....	100	20	44	24	41	1.09	.....	0.66	0.0	4	9	19	3	sw.	Henry Eckstein.
Neillsville	Clark	996	20	70.2	+ 0.5	95	31	44	24	42	1.85	− 2.58	1.71	0.0	3	17	0	14	nw.	William Heaslett.
New Richmond	St. Croix	990	4	70.3	.....	93	2†	48	3†	39	3.95	.....	1.92	0.0	5	16	13	2	sw.	F. R. Van Meter.
Osceola	Polk	806	18	69.8	+ 0.8	95	2	45	4†	36	3.53	− 0.68	1.50	0.0	5	15	14	2	e.	C. W. Staples.
Portage	Columbia	809	13	70.8	− 0.8	96	29	47	19	34	1.43	− 2.19	0.75	0.0	4	22	8	1	sw.	James Clear.
Prairie du Chien	Crawford	690	22	72.5	− 1.4	103	29	50	24	38	1.11	− 2.64	0.61	.....	3	16	8	7	se.	John Ducharme.
Prentice	Price	1,551	11	64.2	− 1.6	88	1†	34	4	44	3.60	− 0.59	1.15	0.0	10	1	17	13	s.	J. G. Lash.
Rhinelander	Oneida	1,550	4	66.8	.....	88	1	40	5	40	4.11	.....	1.56	0.0	15	7	15	8	se.	John Lind.
Sauk City	Sauk	758	1	71.8	.....	98	29	31	3	57	0.29	.....	0.20	0.0	3	10	18	3	w.	K. Derleth.
Shullsburg	Lafayette	1,019	3	69.8	.....	93	29	45	19	39	0.53	.....	0.17	0.0	8	15	8	8	sw.	H. B. Chamberlin.
Solon Springs	Douglas	1,083	2	65.4	.....	87	1	38	3†	48	7.60	.....	2.60	0.0	9	18	4	9	sw.	J. M. Sayles.
Spooner	Washburn	1,104	14	67.6	− 1.7	87	2†	43	3	36	4.80	+ 0.97	1.58	0.0	9	24	3	4	sw.	H. A. Bresee.
Stanley	Chippewa	1,082	5	67.2	.....	89	2	44	3	36	2.78	.....	1.16	0.0	5	18	7	6	w.	L. E. Scott.
Stevens Point	Portage	1,113	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. E. Culver.
Valley Junction	Monroe	930	17	69.4	+ 0.4	94	29	42	19	39	0.99	− 3.02	0.59	0.0	5	16	12	3	nw.	F. Muermann.
Viroqua	Vernon	1,412	18	70.7	− 0.3	96	29	49	3	33	1.34	− 2.81	1.19	0.0	3	15	9	7	sw.	H. E. Rogers.
Vudesare	Vilas	1,600	1	62.7	.....	85	9	36	4	38	10.24	.....	3.85	0.0	9	17	9	5	w.	L. L. Thomas.
Watertown	Jefferson	824	17	69.0	− 1.5	95	29	45	19	34	0.54	− 3.45	0.26	0.0	5	15	14	2	sw.	Charles J. Salick.
Waukesha (1)	Waukesha	970	13	.....	.....	.....	.....	.....	.....	.....	0.46	− 3.37	0.26	0.0	4	.....	.....	.....	.....	A. V. B. Dey.
Waukesha (2)	...do	864	1	70.6	− 0.8	98	29	43	19	36	0.65	− 3.18	0.41	0.0	3	10	21	0	sw.	Carroll College.
Wausau	Marathon	1,212	17	68.6	+ 0.1	90	2†	45	3†	33	2.41	− 1.81	0.99	0.0	7	11	19	1	se.	H. A. Beilke.
Weyerhaeuser	Rusk	1,297	2	65.8	.....	87	2†	38	4	38	4.23	.....	1.50	0.0	9	15	13	3	nw.	Miss Etta Stiles.
Whitehall	Trempealeau	675	17	.....	.....	.....	.....	.....	.....	.....	0.67	− 2.85	0.38	0.0	3	12	19	0	w.	H. A. Towner.
Iowa.																				
Albia	Monroe	959	10	71.5	− 2.7	94	29	55	5	28	6.42	+ 1.49	1.32	0.0	11	15	9	7	sw.	J. Chenoweth.
Algona	Kossuth	1,213	34	71.3	− 2.1	93	2	52	5	31	2.90	− 0.20	1.11	0.0	6	21	2	8	se.	Dr. F. T. Seeley.
Alta	Buena Vista	1,513	17	70.4	− 1.5	93	2	52	5	27	5.86	+ 1.18	1.68	0.0	16	13	10	8	s.	David E. Hadden.
Alta (near)	Buena Vista	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.37	+ 3.49	1.90	0.0	15	.....	.....	.....	.....	W. J. Minard.
Amana	Iowa	721	31	72.0	− 1.7	95	29	52	4	31	6.62	+ 2.37	2.33	0.0	10	14	9	8	se.	C. Schadt.
Ames	Story	926	27	72.3	− 2.0	95	29	51	5	31	3.00	− 1.44	2.20	0.0	8	.....	.....	.....	s.	Iowa State College.
Baxter	Jasper	998	8	71.2	− 2.0	94	29	52	5	25	5.30	+ 0.26	2.02	0.0	13	19	6	6	ne.	W. R. Vandike.
Belle Plaine	Benton	828	18	70.2	− 2.6	96	1†	51	8	32	4.94	+ 0.53	1.80	0.0	10	11	12	8	s.	S. P. Van Dike.
Bloomfield	Davis	.....	.....	75.5	.....	98	29	54	4	35	7.90	.....	3.25	0.0	11	11	13	7	sw.	C. R. Davis.
Bonaparte	Van Buren	.....	17	72.5	− 3.0	97	29	53	4	27	7.35	+ 3.62	2.50	0.0	9	.....	.....	.....	.....	B. R. Vale.
Boone	Boone	1,134	3	71.9	.....	95	2	54	4†	29	4.12	.....	1.40	0.0	12	16	4	11	.....	Carl Fritz Henning.
Britt	Hancock	1,236	11	71.1	− 0.7	92	2	52	4†	30	3.63	− 0.80	1.27	0.0	9	4	17	10	nw.	George P. Hardwick.
Buckingham	Tama	.....	8	.....	.....	.....	.....	.....	.....	.....	1.66	− 3.01	0.61	0.0	6	17	7	7	.....	W. A. Daniel.
Burlington	Des Moines	544	12	73.0	− 2.4	96	29	53	4	27	5.46	+ 1.84	1.80	0.0	10	18	6	7	nw.	Max E. Poppe, jr.
Carroll	Carroll	1,265	18	70.6	− 2.4	92	1†	52	4†	30	4.51	+ 0.50	1.87	0.0	6	16	5	10	e.	Mrs. Joseph J. Wolfe.
Cedar Rapids	Linn	733	26	72.4	− 2.3	97	29	53	5	29	4.21	+ 0.17	1.53	0.0	6	16	4	11	e.	W. J. Greene.
Charles City	Floyd	1,015	20	70.8	− 2.7	93	2	53	5	32	1.77	− 1.81	0.54	0.0	9	6	13	12	sw.	U. S. Weather Bureau.
Clear Lake	Cerro Gordo	1,241	9	71.8	− 1.4	97	29	50	4†	32	2.83	− 1.91	1.35	0.0	5	22	1	8	s.	Oscar Stevens.
Clinton	Clinton	593	40	71.8	− 2.0	95	29	47	19	34	4.73	+ 0.53	1.89	0.0	8	12	13	6	nw.	Luke Roberts.
Columbus Junction	Louisa	595	7	72.8	− 2.8	95	29	53	5	27	5.10	+ 1.09	2.00	0.0	9	21	4	6	nw.	J. B. Johnston.
Davenport	Scott	580	36	72.6	− 2.8	96	29	52	5	24	4.68	+ 1.13	1.98	0.0	14	15	8	8	e.	U. S. Weather Bureau.
Decorah	Winneshiek	875	15	73.6	+ 1.6	98	1	50	24	42	1.29	− 2.43	0.50	0.0	4	.....	.....	.....	.....	F. H. Baker.
Delaware	Delaware	1,083	17	70.7	− 1.2	94	29	50	4†	31	2.22	− 1.93	1.25	0.0	5	15	13	3	se.	William Ball.

TABLE 1—*Climatological data for July, 1909. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Iowa—Cont'd.																			
Des Moines	Polk	861	31	72.9	− 2.6	96	29	54	4	25	4.41	+ 0.55	1.68	0.0	14	8	12	11	nw.	U. S. Weather Bureau.
De Soto	Dallas	866	8	72.9	+ 0.3	95	29	53	24	30	2.88	− 2.95	1.38	0.0	12	21	2	8	sw.	R. D. Minard
Dows	Wright	1,142	8	69.8	− 1.7	91	2	50	4†	31	2.57	− 3.06	0.93	0.0	7	17	5	9	sw.	G. R. Flett.
Dubuque	Dubuque	639	35	71.8	+ 2.9	96	29	53	5	28	1.30	− 3.00	0.40	0.0	8	14	9	8	nw.	U. S. Weather Bureau.
Earlham	Madison	.....	9	72.2	+ 2.2	95	29	50	24	32	3.78	− 1.06	0.96	0.0	10	18	2	11	se.	George Phillips.
Elkader	Clayton	727	27	73.6	0.0	102	29	48	6†	40	1.60	− 3.08	0.65	0.0	....	20	6	5	se.	Charles Reinecke.
Elma	Howard	.....	...	69.8	.....	92	2	49	24	35	2.52	.....	0.93	0.0	8	4	24	3	se.	H. A. Moore.
Estherville	Emmet	1,298	12	69.6	− 1.5	94	2	51	5	32	4.75	− 0.17	1.00	0.0	10	20	0	11	s.	A. O. Peterson.
Fairfield	Jefferson	.....	14	73.3	− 1.4	93	29	54	5	28	7.61	+ 3.62	2.57	0.0	11	16	8	7	sw.	R. M. McKenzie.
Fayette	Fayette	1,003	18	70.6[a]	− 2.5	97[a]	2	48[a]	2	39[a]	1.65	− 2.44	0.70	0.0	5	....	....	....	sw.	R. Z. Latimer.
Forest City	Winnebago	1,226	14	70.4	− 1.6	94	2	52	5	30	3.13	− 0.55	1.40	0.0	5	19	5	7	sw.	J. A. Peters.
Fort Dodge	Webster	1,126	8	71.1	− 1.4	94	2	52	18	35	5.29	+ 1.26	1.30	0.0	10	17	1	13	se.	J. F. Monk.
Fort Madison	Lee	516	59	.....	.....	.....	.....	.....	.....	.....	5.99	+ 2.03	2.55	0.0	6	11	8	12	sw.	Miss L. A. McCready.
Gilman	Marshall	1,052	9	.....	.....	.....	.....	.....	.....	.....	5.33	+ 0.74	3.13	0.0	10	....	....	....	.....	J. L. Wylie.
Grand Meadow	Clayton	1,180	17	69.6	− 0.9	95	29	52	4†	30	1.30	− 3.44	0.40	0.0	6	12	13	6	sw.	F. L. Williams.
Greene	Butler	.....	9	72.7	− 0.6	97	29	52	4	35	2.91	− 1.79	1.74	0.0	7	9	13	9	w.	J. L. Cole.
Grinnell	Poweshiek	1,023	16	72.2	− 1.0	98	29	52	5	32	4.85	− 0.10	1.90	0.0	11	12	10	9	w.	D. W. Brainard.
Grundy Center	Grundy	976	17	71.8	− 0.4	96	29	52	4	34	2.04	+ 2.51	0.50	0.0	10	20	4	7	s.	J. B. Calderwood.
Guthrie Center	Guthrie	1,077	13	72.9	− 0.5	94	2	52	24	32	4.58	− 0.24	1.75	0.0	14	17	6	8	sw.	D. G. Beardsley.
Hampton	Franklin	1,155	18	72.2	− 0.2	94	29	52	5	31	2.73	− 2.10	1.06	0.0	7	12	9	10	nw.	E. C. Grenelle.
Humboldt	Humboldt	1,095	17	72.2[c]	− 0.7	94	2	52[f]	24	30[f]	4.89	+ 0.95	1.08	0.0	9	24	3	4	se.	Henry S. Wells.
Independence	Buchanan	921	43	71.0	− 1.9	96	29	49	4	33	1.53	− 3.06	0.96	0.0	5	18	7	6	se.	George Donohoe.
Indianola	Warren	969	17	72.7[a]	− 2.0	95	29	56[a]	5	26[a]	1.67	− 2.59	1.11	0.0	11	15	5	11	se.	John L. Tilton.
Iowa City	Johnson	683	49	72.6	− 1.6	99	29	52	4†	33	5.75	+ 1.27	2.19	0.0	12	17	8	6	se.	K. E. Guthe.
Iowa Falls	Hardin	1,170	15	70.4	− 1.6	93	2	52	5	34	2.07	− 2.03	0.85	0.0	8	19	4	8	sw.	J. B. Parmelee.
Jefferson	Greene	.....	...	72.8	.....	94	4	54	24	39	5.49	+ 1.63	2.25	0.0	7	18	6	7	s.	G. W. Jackson.
Keokuk	Lee	547	37	73.6	− 3.4	93	29	54	4	27	5.46	+ 1.43	2.86	0.0	10	13	11	7	e.	U. S. Weather Bureau.
Keosauqua	Van Buren	644	16	73.0	− 2.9	97	1†	56	4†	32	6.94	+ 2.81	2.40	0.0	8	9	13	9	.....	J. H. Landes.
Knoxville	Marion	920	12	73.8	− 1.7	96	29	54	4	29	6.48	+ 2.02	2.22	0.0	10	12	11	8	sw.	Casey & Belville.
Lacona	Warren	.....	9	.....	.....	.....	.....	.....	.....	.....	4.83	+ 0.35	1.80	0.0	9	....	....	....	.....	J. B. Alter.
Le Claire	Scott	576	...	.....	.....	.....	.....	.....	.....	.....	3.41	− 1.21	0.95	0.0	10	....	....	....	.....	Miss Margaret T. Disney.
Marshalltown	Marshall	947	16	70.6	− 2.6	95	29	52	5†	30	3.90	− 0.81	1.58	0.0	9	2	22	7	se.	Miss Agnes Musil.
Mason City	Cerro Gordo	1,132	11	69.9	− 1.6	93	2	50	15	33	2.24	− 1.82	0.97	0.0	7	13	13	5	se.	J. S. Mills.
Mount Pleasant	Henry	729	26	72.3	− 3.3	92	29	53	4†	26	6.39	+ 2.56	1.95	0.0	10	15	7	9	sw.	J. W. Edwards.
Muscatine	Muscatine	.....	49	.....	.....	.....	.....	.....	.....	.....	3.63	− 0.28	1.00	0.0	12	....	....	....	s.	William Molis.
New Hampton	Chickasaw	1,169	11	70.0	− 1.4	92	22	48	4	33	1.94	− 2.25	0.55	0.0	9	11	13	7	w.	H. F. Kemman.
Newton	Jasper	944	19	72.5	− 1.9	95	29	53	5	28	3.23	− 1.15	0.95	0.0	7	18	6	7	se.	J. P. Beatty.
Northwood	Worth	1,222	12	70.2[i]	− 1.0	93[i]	29	52[i]	5	30[i]	.....	.....	.....	0.0	....	17	9	5	sw.	Charles H. Dwelle.
Olin	Jones	760	11	70.2	− 3.0	90	29	51	4†	37	3.55	− 0.42	1.50	0.0	7	23	4	4	s.	C. M. Miles.
Osage	Mitchell	1,184	17	71.9	+ 1.4	95	2†	52	4†	35	1.61	− 2.11	0.75	0.0	3	14	11	6	sw.	A. D. Bundy.
Oskaloosa	Mahaska	843	24	72.6	− 1.8	93	29	55	5	28	3.94	− 0.03	1.70	0.0	12	19	0	12	sw.	Joseph Boyd.
Ottumwa	Wapello	649	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pella	Marion	877	6	71.4	− 4.6	92	29	54	5	28	2.92	− 1.44	0.86	0.0	11	24	0	7	se.	John H. Ver Steeg.
Perry	Dallas	975	7	72.6	− 2.0	93	2	55	5	29	5.38	+ 0.77	1.35	0.0	10	13	12	6	.....	J. A. Harvey.
Plover	Pocahontas	1,426	12	72.1	− 0.5	96	2	50	24	36	4.50	+ 0.13	1.95	0.0	13	19	5	7	se.	J. S. Smith.
Pocahontas	...do	.....	4	70.8	.....	93	2	52	4†	28	5.83	.....	1.52	0.0	14	10	13	8	se.	F. E. Hronek.
Ridgeway	Winneshiek	1,215	10	71.9	− 1.5	102	29	52	5	32	1.24	− 3.42	0.40	0.0	8	17	10	4	s.	Arthur Betts.
Rockwell City	Calhoun	.....	12	73.5	+ 0.1	95	2	50	5	28	6.42	+ 2.90	1.85	0.0	8	20	4	7	.....	C. M. Randall.
Sac City	Sac	1,278	26	70.9	− 1.8	92	2	52	4†	27	4.59	+ 0.56	1.31	0.0	15	13	5	13	se.	E. W. Baily.
St. Charles	Madison	1,070	7	72.8	− 1.3	95	29	57	5	26	2.21	− 3.58	0.80	0.0	11	15	10	6	se.	R. D. Minard.
Sigourney	Keokuk	877	12	73.2	− 2.6	96	29	53	5	32	2.70	− 1.60	0.70	0.0	8	1	26	4	se.	J. T. Parker.
Stockport	Van Buren	.....	6	72.0	.....	91	29	55	4	25	8.57	+ 3.98	4.62	0.0	10	17	4	10	ne.	C. L. Beswick.
Storm Lake	Buena Vista	1,440	12	71.0	− 0.9	92	2	51	4	27	5.87	+ 1.57	1.75	0.0	12	16	8	7	s.	S. B. Fracker.
Stuart	Guthrie	1,216	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tipton	Cedar	807	10	74.2	− 0.6	98	29	52	5	30	4.17	− 0.05	1.37	0.0	9	18	7	6	sw.	F. K. Gregg.
Toledo	Tama	856	14	71.4	− 2.2	95	29	52	5	30	5.16	− 1.10	2.01	0.0	10	17	7	9	nw.	I. F. Geiger.
Wapello	Louisa	588	10	71.3	− 2.9	90	29	53	5	22	3.99	+ 0.77	1.34	0.0	10	19	8	4	e.	G. W. Schofield.
Washington	Washington	769	27	71.8	− 3.7	94	29	53	4†	26	2.68	− 0.94	1.11	0.0	9	8	13	10	se.	Wm. A. Cook.
Waterloo	Black Hawk	862	25	72.4	− 1.1	98	29	54	5†	31	1.20	− 3.20	0.47	0.0	7	16	9	6	se.	M. L. Newton.
Waukee	Dallas	1,039	5	71.8	.....	95	29	54	24	28	4.45	− 1.92	1.52	0.0	13	15	8	8	sw.	Samuel F. Foft.
Waverly	Bremer	948	12	71.2	− 1.2	91	2†	52	5	30	1.57	− 2.97	0.42	0.0	8	10	14	7	.....	H. S. Hoover.
Webster City	Hamilton	.....	3	73.2	.....	95	2	51	24	40	5.30	.....	1.18	0.0	10	15	12	4	ne.	C. D. Carpenter.
West Bend	Palo Alto	1,197	14	72.0	− 0.1	96	2	52	4†	34	5.29	+ 1.51	1.20	0.0	12	....	....	....	se.	Joseph Dorweiler.
Whitten	Hardin	1,036	10	72.3	− 1.0	96	29	50	4	32	2.98	− 1.36	0.66	0.0	6	19	6	6	se.	F. P. Butler.
Wilton Junction	Muscatine	683	13	73.1	− 1.6	94	29	50	17	35	3.30	− 1.92	1.96	0.0	5	21	2	8	w.	William Lang.
Winterset	Madison	1,129	17	75.0	+ 1.0	96	2†	56	23†	32	2.39	.....	0.93	0.0	11	14	9	8	s.	Robert S. Cooper.
Zearing	Story	.....	4	71.8	.....	98	29	53	4†	33	3.09	.....	0.68	0.0	10	....	....	....	e.	Orley Reese.
Missouri.																				
Darksville	Randolph	826	18	75.2	− 0.8	91	6	58	4†	27	5.25	+ 1.05	2.25	0.0	7	18	6	7	s.	W. H. Broaddus.
Gorin	Scotland	.....	23	.....	.....	.....	.....	.....	.....	.....	9.22	+ 4.89	4.50	0.0	8	13	10	8	se.	J. W. Pulliam.
Hannibal	Marian	534	18	74.3	− 3.1	93	2	57	4	27	4.73	+ 0.98	1.91	0.0	9	12	10	9	sw.	U. S. Weather Bureau.
Louisiana	Pike	500	31	74.8	− 1.2	97	2	50	20†	28	4.62	+ 1.12	1.10	0.0	8	21	5	5	sw.	J. T. Farrell.
Mexico	Audrain	797	31	75.2	− 2.0	94	2†	55	4	32	6.07	+ 2.08	2.10	0.0	12	13	0	18	s.	J. F. Llewellyn.
Sublett	Adair	1,000	29	73.8	− 2.1	94	1	53	5	28	12.60	+ 8.50	3.50	0.0	8	10	14	7	sw.	Lewis Spriggs.
Steffenville	Lewis	576	16	74.4	− 1.9	91	1	54	5	30	8.65	+ 4.15	3.07	0.0	9	25	4	2	s.	Frank Hall.
Indiana.																				
Collegeville	Jasper	.....	30	71.5	− 4.9	94	28	47	4†	31	5.02	+ 1.14	1.33	0.0	11	9	13	9	se.	Prof. L. C. Klosterman.
Knox	Starke	716	0	70.6	.....	92	28	47	4	33	4.01	.....	1.52	0.0	9	18	8	5	s.	W. R. R. Tatman.
Laporte	Laporte	810	4	72.5	− 3.7	95	28	46	4	38	2.79	− 0.98	1.10	0.0	8	14	12	5	sw.	Chas. D. Rakestraw.
Plymouth	Marshall	790	0	69.4	.....	91	28	46	4	30	3.58	.....	1.97	0.0	8	17	9	5	sw.	J. W. Siders.
Illinois.																				
Aledo	Mercer	738	9	71.8	.....	93	1†	51	4†	30	4.10	.....	1.28	0.0	11	11	14	6	s.	William B. Frew.
Alexander	Morgan	670	16	73.2	− 3.0	93	2	48	4	32	6.11	+ 2.12	2.27	0.0	10	12	9	10	nw.	George H. Hall.
Antioch	Lake	861	8	70.5	.....	99	29	45	5	35	1.15	.....	0.65	0.0	2	11	14	6	e.	J. C. James, jr.
Ashton	Lee	830	14	71.4	− 1.3	96	29	43	5	39	1.02	− 2.77	0.42	0.0	4	10	17	4	nw.	E. J. Yenerich.
Astoria	Fulton	650	9	70.6	− 3.1	90	2	50	4†	29	4.73	+ 1.03	1.50	0.0	8	17	9	5	nw.	Edward V. Bohl.
Aurora	Kane	687	30	70.4	− 2.7	95	29	45	19	36	0.48	− 2.79	0.18	0.0	6	12	8	11	sw.	W. Holden.
Bement	Piatt	700	10	73.2	.....	94	29†	50	19	31	7.20	.....	1.85	0.0	8	18	5	8	ne.	Rev. C. S. Adams.
Benton	Franklin	598	7	78.0	.....	95	2	58	4†	34	12.45	.....	3.50	0.0	8	8	11	12	s.	F. H. Stamper.
Bloomington	McLean	840	17	73.2	− 2.4	95	1	45	4†	42	3.15	− 0.71	1.11	0.0	6	17	6	8	ne.	Prof. H. N. Pearce.
Cairo	Alexander	359	39	79.0	+ 0.1	94	6	63	26	25	3.13	− 0.34	2.03	0.0	7	15	7	9	s.	U. S. Weather Bureau.
Cambridge	Henry	824	16	73.2	− 1.9	99	29	49	4	33	3.43	− 0.58	1.06	0.0	8	19	8	4	se.	John H. Seaton.
Carlinville	Macoupin	663	19	74.8	− 1.6	95	2	51	4	31	5.41	+ 1.56	2.24	0.0	9	14	12	5	se.	R. O. Purviance.
Chester	Randolph	380	5	78.6	.....	98	2	61	26	32	7.25	.....	3.20	0.0	10	22	4	5	w.	F. A. Gollon, jr.
Chicago	Cook	824	36	72.3	− 0.1	92	29	55	3	22	1.77	− 1.87	0.87	0.0	8	9	13	9	ne.	U. S. Weather Bureau.
Coatesburg	Adams	763	15	73.9	− 2.6	93	2	51	4	31	5.91	+ 1.84	3.09	0.0	7	12	12	7	s.	Dr. J. R. Lambert.
Cobden	Union	656	26	78.9	+ 0.3	98	2	57	4†	32	10.93	+ 6.77	6.15	0.0	7	16	12	3	n.	John Buck.

TABLE 1.—*Climatological data for July, 1909. District No. 5*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois—Cont'd.																				
Colchester	McDonough	694	7																	Eli V. Kinsey.
Dakota	Stephenson	929	....	70.6	.....	95	29	48	4	38	1.37	.....	0.41	0.0	8	12	14	5	w.	Harold Leitzel.
Decatur	Macon	685	17	72.8	− 2.9	94	1†	48	19	35	6.18	+ 2.76	2.52	0.0	10	16	9	6	se.	Prof. J. H. Coonradt.
Dixon	Lee	725	19	71.6	− 2.3	95	29	48	19	34	1.51	− 2.59	0.87	0.0	5	19	2	10	s.	Mrs. E. E. Shaw.
Du Quoin	Perry	459	18	78.5	+ 0.2	99	2	58	4†	32	8.72	+ 4.41	3.00	0.0	9	17	12	2	sw.	G. H. Knetzger.
Dwight	Livingston	600	15	71.8	− 3.5	97	29	46	4†	37	1.50	− 2.03	0.62	0.0	7	14	6	11	se.	Edward O. Welsh.
Galva	Henry	842	17	71.9	− 2.3	98	29	49	3†	34	4.74	+ 0.95	1.52	0.0	12	18	3	10	ne.	Prof. F. U. White.
Greenville	Bond	635	26																	M. S. Oudyn.
Griggsville	Pike	650	22	74.6	− 2.0	96	2	52	4	33	4.11	+ 0.69	1.68	0.0	7	16	9	6	se.	George F. Kneeland.
Halfway	Williamson	569	13	77.0	− 1.7	98	6	57	4	33	6.44	+ 3.38	1.76	0.0	9	18	7	6	s.	E. L. Hearn.
Havana*	Mason	475	16	74.9	− 2.2	97	2	50	4	35	4.84	+ 0.58	1.31	0.0	9	13	15	3	ne.	F. & C. Borgelt.
Henry	Marshall	500	20	72.2	− 2.1	95	29	48	19	34	3.81	+ 0.09	1.04	0.0	9	17	8	6	ne.	Dr. F. A. Powell.
Hillsboro	Montgomery	675	14	74.4	− 2.1	97	2	52	4	34	6.25	+ 2.29	2.12	0.0	10	19	2	10	s.	Ira L. Woodward.
Joliet	Will	541	17	70.9	− 2.8	92	28	48	4	32	1.69	− 1.99	0.57	0.0	7	15	3	13	sw.	F. M. Muhlig.
Kishwaukee	Winnebago	730	19	70.9	− 2.1	97	29	44	19	36	1.25	− 2.34	0.36	0.0	7	20	6	5	s.	George Stevens.
Knoxville	Knox	775	19	71.0	− 3.5	93	29	45	19	35	7.41	+ 3.24	4.60	0.0	6	17	8	6	sw	C. N. Butt.
La Grange	Cook	657	16	71.8	− 1.2	95	29	48	4	36	1.28	− 2.73	0.98	0.0	4	14	12	5	sw.	Prof. F. E. Sanford.
La Harpe	Hancock	698	30	72.8	− 3.6	93	29	50	4	30	6.18	+ 1.66	2.90	0.0	5	20	4	7	sw.	John S. Campbell.
Lanark	Carroll	883	18	69.6	− 2.9	98	29	40	19	42	1.53	− 2.76	0.52	0.0	9	20	6	5	se.	M. N. Wertz.
La Salle	La Salle	536	33	71.8	− 3.5	95	29	49	4	31	2.52	− 0.75	0.83	0.0	10	12	12	7	sw.	U. S. Weather Bureau.
Lincoln	Logan	482	20																	
Martinton	Iroquois	633	21	71.8	− 2.3	96	29	45	19	38	2.45	− 0.96	0.80	0.0	7	15	10	6	s.	Joseph H. Peltier.
Mascoutah	St. Clair	425	18	77.7	− 0.2	99	2	52	4	41	7.63	+ 4.29	3.51	0.0	10	19	8	4	nw.	George Henrich.
Minonk	Woodford	745	15	72.2	− 2.5	96	29	46	4	36	1.98	− 1.19	1.00	0.0	5	16	8	7	w.	O. M. Davison.
Monmouth	Warren	784	16																	Hugh R. Moffet.
Morrison	Whiteside	685	13	70.6	− 2.5	93	29	47	19	32	3.59	− 1.56	1.66	0.0	9	15	11	5	s.	Harold A. Maxwell.
Morrisonville	Christian	638	9	72.6	− 2.6	92	2	48	4	30	6.77	+ 2.61	2.98	0.0	9	15	4	12	e.	J. D. Lowis.
Mount Vernon	Jefferson	511	14	76.0	− 1.8	97	2†	55	25	41	4.03	− 0.06	1.41	0.0	8	16	5	10	n.	Theodore P. Stelle.
Oregon	Ogle	702	....	71.3	.....	98	29	45	19	35	0.45	.....	0.15	0.0	3	18	0	13	sw.	Samuel Ray.
Ottawa	La Salle	500	23	72.4	− 2.7	97	29	48	4†	35	2.95	− 0.95	0.86	0.0	8	16	4	11	sw.	Miss Maud M. Harris.
Pana	Christian	692	22	72.4	− 3.9	91	29	51	4†	26	8.82	+ 4.84	2.98	0.0	10	25	3	3	nw.	C. W. Sibley.
Peoria	Peoria	609	33	71.4	− 4.0	94	29	47	19	34	4.57	+ 1.60	2.37	0.0	9	13	12	6	e.	U. S. Weather Bureau.
Pontiac	Livingston	546	7	73.2	.....	96	29	47	19	38	2.29	.....	0.95	0.0	10	14	8	9	sw.	George Butterworth.
Riley	McHenry	956	50	70.5	− 1.1	98	29	48	4	33	0.63	− 2.90	0.15	0.0	7	7	15	9	sw.	John West James.
Rockford	Winnebago	763	13	72.0	− 1.7	97	29	49	4†	30	0.68	− 2.99	0.20	0.0	8	25	2	4	.....	Hosmer C. Porter.
Rushville	Schuyler	670	8	72.8	.....	91	2†	51	4	27	3.99	.....	2.31	0.0	5	13	9	9	s.	H. F. Dyson.
St. Charles	Kane	700	12	70.6	− 2.9	98	29	46	4	36	0.33	− 3.72	0.13	0.0	6	14	13	4	sw.	Dr. Wm. H. Bishop.
Springfield	Sangamon	644	28	73.6	− 2.9	94	2	51	4	30	6.47	+ 3.57	2.45	0.0	11	14	7	10	s.	U. S. Weather Bureau.
Staunton	Macoupin	625	....	75.5	.....	97	2	52	4	36	2.70	.....	1.04	0.0	5	21	9	1	sw.	William F. Schaefer.
Streator	La Salle	626	15	72.6	− 2.2	97	29	41	19	44	2.60	− 1.61	0.65	0.0	11	22	5	4	sw.	Edward F. Sweetser.
Sullivan	Moultrie	530	9	73.1	.....	96	2	47	4	38	5.58	.....	1.68	0.0	11	16	9	6	sw.	C. A. Corbin.
Sycamore	De Kalb	855	28	71.2	− 0.7	101	29	45	4	41	0.62	− 3.13	0.55	0.0	3	17	3	11	e.	Miss E. J. Davis.
Tilden	Randolph	500	23	77.6	+ 0.4	97	2	54	4	36	6.14	+ 2.69	2.25	0.0	9	22	6	3	s.	James A. Caldwell.
Tiskilwa	Bureau	798	14	70.6	− 3.2	92	29	48	4	34	3.02	− 1.24	1.15	0.0	11	20	3	8	nw.	F. I. Smucker.
Walnut	do	717	17	75.2	− 0.3	98	29	48	4	33	1.83	− 2.35	0.95	0.0	7	13	13	5	e.	O. C. Nussle.
White Hall	Green	573	....	73.4	.....	94	2	51	4†	33	6.02	.....	2.08	0.0	9	18	7	6	ne.	Dr. R. A. Pritchett.
Windsor	Shelby	681	10	73.4	− 1.8	95	1†	49	4†	34	6.80	+ 2.72	4.61	0.0	10	9	13	9	s.	Herbert Rose.
Winnebago	Winnebago	900	21	70.7	− 2.0	97	29	44	19	37	1.03	− 2.80	0.30	0.0	7	16	10	5	sw.	Frank Osborn.
Yorkville	Kendall	584	21	71.6	− 1.2	96	29	44	4†	41	2.24	− 1.33	0.75	0.0	8	20	4	7	w.	Herman A. Grimwood.
Zion	Carroll	938	13	70.2	− 1.5	95	29	44	19	34	0.43	− 3.54	0.25	0.0	4	25	2	4	sw.	Robert F. Gillogly.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 5, Upper Mississippi Valley.*

Stations.	River basins.	Day of month																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																																	
Amenia	Red						T.		T.			1.15		.22	T.			.05		.15	.40	T.			T.		1.02			T.	2.99
Battineau	Mouse		.75				T.		.60		.68	.44	.56	.70	.35			.02		.02							.01	.13	.31			4.57
Cando	Sheyenne		.49				.08				1.60	.03	.20	.57												.20		.17			3.42
Crosley	Mouse							.12			.09	.13	.30	.03	T.					T.	T.					.20	.04	.20				1.11
Devils Lake	Sheyenne	T.					.05	.51	.06		.96	T.	.39	.16			.01		T.		.06			.01				T.	.30		.05	2.56
Donnybrook	Mouse								.27					T.					.15	T.						.28		.37				1.07
Dunserth	...do		.40				T.	.15		.68	.68	.73		.42					T.								T.	.26			3.32
Edmore	Sheyenne		.33					T.	.41		.80	.10	T.	.30					.35	T.					.15				.05	.05	2.54
Forman	...do	.16			.41	.02		T.	.06			.40		.11			.19			.42	2.39				.03	T.		.29		.07	4.55
Grafton	Red								.64		.64		.02	.49					1.69						1.09			.48		.40	5.45
Granville	Mouse			.07				.22	.14		.05		.08	.11							.08			.20	.03		.08				1.06
Hamilton	Pembina																															
Hannah	...do							.76			.51	.20	1.01	.19					.15								T.	T.			.10	2.92
Hansboro	Red							T.	.75		.31	.35	.32	.16					.05									.06				2.00
Hillsboro	...do										.79			.06					.23	.11	.39							.11				1.69
Locota	Sheyenne						.05		.31		.80	.10	.20	.27	T.				.27		.05				T.			.32		T.		2.37
Langdon	Pembina								.49			.77	.11	.47					.74	.67									.17			3.42
Larimore	Red	.14						.16				.78	.02	.05	.09				.16	.07						.12		.20	.11		.03	1.93
Lisbon	Sheyenne	T.				T.			.12			1.20	.02	.08	.04			.60		.96	2.34	.94			.11			.36	T.		.05	6.82
McKenney	Mouse							.30					.30				T.		T.								26					0.86
Manfred	Sheyenne								.80			.35		T.	.08					.53					.15			T.	.87				2.78
Mayville	Red										1.10	.20							.30	.40	.10				.10			.05				2.35
Milnor	Sheyenne										1.30							.50			4.00							.10				5.90
Minot	Mouse	.10	T.	T.	.04			T.	.50			.01							T.		.20	.11			.10	.10	.31					1.47
Minto	Red							.55			T.	1.03	.04	.15					2.05		.02				.24			.31				4.39
Oriska	Sheyenne																															
Park River	Red																															
Pembina	...do	T.	T.					.36		.03		.59		.21	.04				.40	.06											.12	1.90
Portal	Mouse							.10					1.95															.10				2.15
Power	Sheyenne					T.		.40		1.35								.15			.47	2.50				.11		.25	.13		T.	5.36
Pratt	Mouse						.27		.15				.55	.01				.02										.13				1.13
Towner	...do							.44	.20			.51		.60	.68			.25		T.					.16							2.84
University	Red		T.	T.		T.	.06		.03			.19	.24			T.					.03					.03	T.		.06	T.		.32	0.96
Wahpeton	...do				T.						1.52										1.79	.11				.03			.11		T.	3.56
Walhalla	Pembina																															
Westhope	Mouse		.59				T.	.01	.40			.53		.78	.06			.15								.06	.09		.08				2.75
Willow City	...do		.22					1.44				.45		.42	.23		.03									.26							3.05
Minnesota.																																
Albert Lea	Mississippi				.70													T.	.60								.05					1.35
Alexandria‖	...do	.20				.20			T.			.54	.04										.15			T.							1.13
Anagus	Red	.02					T.		.20			.12	.50	.08	.14	.02				3.11	T.	.03				.53			.12		.01		4.88
Bagley	...do								.01			1.27	T.	.03	.24	.02				1.20	*a*	.08	.04			1.85	.23		.15			T.	15.12
Baudette	Rainy		.03						.40	T.			.56	T.	.76	.05				3.75						.07			.22			.62	6.46
Braadsley	Minnesota				.25				.40			1.52	.09		.04			.32				.06				.23						.33	3.24
Beaulieu	Red											1.00	.64		.25						.97	*b*	.28	.07		T.		.28		.19			14.43
Bird Island	Minnesota				.22					T.		.52			.05					.30			.24								.01		1.34
Caledonia	Mississippi				.07		.04			.65			T.														T.		T.				0.76
Campbell	Red	1.10			.12	.02			.12			1.30							.03		.02	.80				.10			.51				4.12
Cass Lake‖	Mississippi												.86		.13		.12			1.10	1.15	.38	.24				.80		.42				5.20
Collegeville	...do				.30							.55	.13		.08							1.22							.05				2.33
Crookston‖	Red	T.							T.			1.80	.04	.17	.08					1.07	T.	.16	T.			.53		.05	T.				3.90
Detroit	...do	.34										1.10	T.	.10	T.						.30	4.50	.20				.12		.14			T.	7.10
Fairmont	Minnesota				.64	.12	.10	.02	T.	.04	.46	.18						.48	.17								T.				.20		2.41
Faribault	Mississippi				.15					T.	.60	.56	.02						.13							T.							1.46
Farmington	...do				T.					T.	.40	.98										.18				T.							1.56
Fergus Falls	Red				.04				.14			.73	.24					.01			.55	2.50			.03			.30			T.	4.54
Fort Ripley‖	Mississippi												.22								.38	1.38	.60										2.58
Fosston	Red											1.54	.10	.37					8.97		.16				1.80			.30			.14	13.38
Glencoe	Mississippi				.08	T.				T.	1.30											.35	.10										1.83
Grand Meadow	...do				.22	T.	.08			T.	.28		T.														.17						0.75
Hallock	Red								.50				1.20	.05	.10	.03				.55											.25	2.68
Halstad‖	...do	.02							.01				1.05		.18					.12	1.29	.72	.01			T.		.08	.11		T.	3.59
Hinckley	St. Croix											.14	.20							2.10	1.70	.51							.61				5.26
International Falls	Rainy		.34						.19						T.	.23	.04			.87	.13					.25		.25	.12		T.	2.42
Kelliher	Red												1.66		.33	.15			1.09	.20	.07							.30				3.80
Lake Crystal	Minnesota				.31	.03					.40	.28						.53			.04										.05	1.64
Leech Lake Dam	Mississippi												.87		.12	.62			1.40	1.00	.47	.27				.36		.16			1.21	5.88
Litchfield	...do											2.15			.13						.75												3.03
Little Falls	...do	.03							T.			.09	.26			.02					2.45	.15											3.00
Long Prairie	...do	.20			.03							.02	.20							.05	2.00	T.			T.								2.50
Lynd(2)	Minnesota				1.18	.08				.07		T.			.17				T.		.20									.45			2.15
Mankato‖	Minnesota										.35	.25	.02																		.05		0.67
Milaca	Mississippi	T.										.54	.38							T.	1.88	.09							.84				3.73
Milan	Minnesota				.15				.11	.04		1.24	.02		.35			.25			T.								T.				2.16
Minneapolis(1)	Mississippi				.10				T.	T.		3.75	T.				T.				1.17	T.				T.		T.	.01				5.03
Minneapolis(2)	...do				.13	T.				T.		4.23	T.		T.						1.03					T.			.01				5.40
Montevideo‖	Minnesota				T.	.19						.22	.18		.25				.59						T.			T.			.03		1.46
Moorhead	Red								.20			.73	.09		.05			.03		1.07	.26							.46		.03			2.92
Mora	St. Croix											.18	.20							.75	2.48	.19						.01	.95				4.76
Morris	Minnesota				.30	.01		.15	T.	T.		.54	.15					.28		.05	.50											T.	1.98
New London	Mississippi				.16							.86	.10	.02				T.			.70												1.84
New Richland	Minnesota				.34		.10			T.	.06							.19								T.				T.			0.69
New Ulm‖	...do				T.	.28						.90							.60		T.										.18		1.96
Osakis	Mississippi	.04			.29				T.			.15	.25								.04	.63							T.				1.40
Park Rapids‖	...do	.30								T.			.52		.09	.12	.02			4.16	4.17	1.55	.50				.29	.01	.27					8.00
Pine River Dam	...do	T.											.15		.50					T.	1.60	1.20	.91			T.							4.36
Pokegama Falls	...do	.01								.02			.19		.27	T.	.04			.56	.40	1.13	.25			.03		.19	.16		.20		3.45
Red Lake	Red										1.98	T.			.50	T.				2.70	.12					T.		.30			.35		5.95
Red Wing	Mississippi				.10	T.				T.	T.	1.34	T.	T.												T.							1.44
Red Wing (river)‖	...do					.06						1.70	.04										T.				T.						1.86
Redwood Falls	Minnesota				.42				T.	T.		.51						.30	.31		T.										.11		1.65
Reeds Landing‖	Mississippi					.02					.02	.04	1.38																				1.46
Rochester‖	Mississippi					.18	T.				.12		.05													.07							0.42
Roseau	Red																															
St. Charles‖	Mississippi					.15	.05	T.			.55			T.												.05					T.		0.80
St. Cloud	...do				.27						.70	.02		T.							T.	1.64	.01							.44				3.08
St. Paul	...do				.08					T.		2.51	.05		.02	T.						.99				.01		T.					3.66
St. Peter	Minnesota				.14	.05						.88							.07			.10			T.						T.		1.24
Sandy Lake Dam	Mississippi								T.			T.	.11		.34					.18	2.09	1.82	2.47					T.					7.01
Shakopee	Minnesota																															
State Sanitorium	Mississippi	.01										.43		.04	.50	.05				2.10	3.85	1.29	.39			T.	.24		.38			.05		9.33
Stillwater‖	St. Croix				.10								1.34	.04		.06						1.02	.80							.62				3.98
Taylors Falls	...do											.84	.30		T.					1.82	1.38	.29							.46				5.09
Wabasha	Mississippi				.04							.86														T.							
Warroad	Rainy		.10						.20	.01		.03			.13	.03				2.02									3.6				2.88

a indicates 10.00. *b* indicates 10.75.

TABLE 2.—*Daily precipitation for July, 1909. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Minnesota—Cont'd.																																	
West Concord	Mississippi				.20		.02					T.								T.	.75	1.50	2.00						.05	.13		.02	4.55
Willow River	St. Croix	T.							T.				.10																			0.22
Windom	Des Moines				.60	.07	.16			.24	.27	.35	.15		T.				.62												.17		2.63
Winnebago	Minnesota				.04	.91	T.	.06			.14	.11	T.	T.						.50		T.					T.	T.				.13	1.89
Winnibigoshish	Mississippi												.57	.02	.22					1.61	.31	1.20	.51				.36		.20			5.00
Winona	...do		T.		.11	T.	T.				.39																T.	T.	T.			0.50
Worthington	Des Moines				.75	.15	.20	T.			1.70	.90	.19		T.							.20							T.	1.10			5.19
Zumbrota	Mississippi				.04		.01			T.	.50	.50	.02														T.					1.07
South Dakota.																																	
Milbank	Minnesota	T.			.56	.12			.36	.05	.12	.13			.06				.60			.12				.06					T.	2.18
Wisconsin.																																	
Antigo	Wisconsin	T.	.28									.51	.56		.43	.70	.09					.10	.05									2.72
Barron	Chippewa									T.		1.72	.35		.88						.16	.56	.29				T.		T.			2.96
Beloit	Park		.01		.03	.03	.04						.11			.34		.13					.03				T.		.15		T.	0.87
Brodhead	...do	.10		.16		.09																					T.		.50			0.85
Burnett	...do	T.	T.				T.				.32					T.							.03						.17			0.52
Delevan	...do		.03		.05	T.	T.				.04					.64							.09				T.		.08	.89		.12	1.94
Dodgeville	...do																																
Downing	Chippewa				T.							1.80	.91		T.		T.					1.40	T.						.85			4.96
Eau Claire	...do				T.					T.		0.95	1.17	T.	T.	.06					T.		T.						.02			2.20
Ellsworth	Mississippi																																
Gliddon	Chippewa																																
Grand Rapids	Wisconsin										.26		.67											.19					.02	.02			1.16
Grantsburg	St. Croix																			1.85	3.00	.30				.40	.20					5.75
Hancock	Wisconsin		T.								.78		.38	.07								T.										1.23
Hatfield	Black										.22	.02	1.27																			1.51
Hayward	St. Croix										.45	.55		.09	.29	.04				.09	**	**	**	**	**	**	**	**	**	**	**	2.04	3.55
Hillsboro	Wisconsin		.48		.06		T.				.42		T.									T.					T.		T.		T.	0.96
Koepenick	Wisconsin	.02	.50							.05		.36	.51		.21	.35	.07				.09	.22	.39						.13			2.90
La Crosse	Mississippi		T.		.06		T.			.45	.11		.01														.03		T.	T.	0.66	
Lake Mills	Park		T.		T.		T.				T.		T.			.03						T.				T.		T.		T.	.06	0.09
Lancaster	Mississippi		.35		.36						.26																		.58				1.55
Long Lake	Wisconsin		.48									.57	.40		.11	.46				T.	.83	1.02	1.22							.14		.09	5.32
Madison	Park		.13		.03		T.				T.		T.			.05	T.					T.	T.				T.		.08		T.	T.	0.29
Mather	Wisconsin		.24		T.						.64		.94	T.																T.			1.82
Mauston	...do		.30	.12							2.50																						2.92
Meadow Valley	...do		.16							.18			.96			T.						.02										1.32
Medford	Black											.90	1.15		.32							.52	.28					.20				3.37
Merrill	Wisconsin										2.51	.30		.04	.39	.07						.29	.19					.42			1.23	5.44
Minocqua	...do																																
Mondovi	Mississippi			.01								.30	1.04														.04						1.39
Mt. Horeb	Park		.30		.03		T.				.04				T.								T.				T.		.24				0.61
Muscoda	Wisconsin			.66		.04		.01			.38																T.	T.		T.		T.	1.09
Neillsville	Black											1.00	.71																.14				1.85
New Richmond	St. Croix											1.92	.25		.15							1.19					T.		.44				3.95
Osceola	...do				T.					T.		1.13	.20		.07							1.50							T.		.63		3.53
Portage	Wisconsin		T.	.08						.75													.41						.19				1.43
Prairie du Chien	Mississippi					.25	T.	.25			.61			T.								T.					T.	T.			T.		1.11
Prentice	Chippewa									.08		1.15	.15		.80	.27				T.	.14	.20	.50							.13		.18	3.60
Rhinelander	Wisconsin	.03	.18							.02		.65	.63		.22	.27	.03				.10	.44	1.12	.04					.10	.05		.23	4.11
Sauk City	...do		.20							.01																			.08				0.29
Shullsburg	Mississippi		.01		.01	.17	.06									.08											.02	.02	.16				0.53
Solon Springs	St. Croix										.20		.50	.40	.20				1.50	1.00	2.60	.20							1.00				7.60
Spooner	...do											.48	.42		.06						.58	1.58	.53						.18	.19		.78	4.80
Stanley	Chippewa											.88	1.16		T.	T.						.47	.14				T.			.13	T.			2.78
Stephens Point	Wisconsin																																
Valley Junction	...do		.05		.11						.59		T.	.21									T.					.03				T.	0.99
Viroqua	Mississippi		T.		.03	T.	T.				1.19												12				T.		T.		T.		1.34
Vudesare	Wisconsin		.30									.61	1.10	.10	.67	T.		T.		T.	3.85	2.33	1.03							.25			10.24
Watertown	Park			.05							.06					.26								.09						.08			0.54
Waukesha (1)	Fox		.26											T.									.12						.03	.05		T.	0.46
Waukesha (2)	...do		.41																				19							.05			0.65
Wausau	Wisconsin											.33	.99		**	.09					T.	.11	.38						.09			.42	2.41
Weyerhacuser	Chippewa											1.50	1.27	.04	.20	.02					.16	.69	.27						T.	.08			4.23
Whitehall	Mississippi											.21	.38														.08						0.67
Iowa.																																	
Albia	Des Moines				1.30	1.10	1.22	.12						.06					.20			1.32					.34	T.	.13		.51	.12	6.42	
Algona	...do				1.05	.02	.12	T.	T.	.07	1.11	T.	T.						.53						T.				T.	T.			2.90
Amana	Iowa				.75	2.28	2.33	.13			T.		.08			.16			.02			.10					.07		.70		T.	T.	6.62	
Ames	Skunk	.29				2.20	.11				.09		.04		.02				.05							T.	.20		T.			T.	3.00	
Baxter	...do				.65	.25	2.02	.05			.75	T.	.02		.02		.35		.09							.03	.28		.04		T.	.75	5.30	
Belle Plaine	Iowa				.35	1.60	1.80	.09	T.		.27		.08			.02			.03	T.							.23		.47				4.94	
Bloomfield	Mississippi				.35	2.30	3.25	.81			.10	.11											.03				.28	.60	.05		.02		7.90	
Bonaparte	Des Moines				.24	2.50	2.20	1.17			T.		.21										.04				.11	.68		.20				7.35	
Boone	...do				.30	1.10	.81	.90	T.		.03		.03			.02			.07								.15	T.	T.			.71	4.12	
Britt	Iowa				1.00	.08	.27	.02			1.27				T.					.49		T.				.05	.08				.37	3.63	
Buckingham	Cedar				.61		.43	.12			.05		.34		T.											.11	T.						1.66	
Burlington	Mississippi					.83	1.60	1.80	.65				.04	.05													.30	.09	.07			.03	5.46	
Carroll	Raccoon				1.87	1.32	.30	.09																		.45				.48		4.51	
Cedar Rapids	Cedar				1.53	1.10	.45						T.			.09		.19				T.				T.	T.	.85	T.		T.		4.21	
Charles City	...do				.54	.31	.25		T.	.26	.20	T.						.06								.06	.08	T.	.01		T.		1.77	
Clear Lake	...do				.70	.15	.20				1.35								.43														2.83	
Clinton	Mississippi		.86			1.89	.37				.42					.50											.04		.65				4.73	
Columbus Jct	Iowa				1.30	2.00	.20				.35	T.	.45			.05						.10					.17	T.	.48			T.	5.10	
Davenport	Mississippi		.40		.17	.75	.59	.07			1.98		.01		.32	T.			.06			T.				.02	T.	.20	.09	.01	T.	.01	4.68	
Decorah	...do				.24	T.	.40				.50		T.														.15				T.		1.29	
Delaware	...do					1.25	.26				.23								T.								.03		.45				2.22	
Des Moines	Des Moines				1.03	.14	1.66	T.			.01		.06		.18			.16	.21			T.				.15	.08	.05	.01		.65	.02	4.41	
De Soto	Raccoon				.36	.27	1.38	.01			.07		.04		.10	.12			.02							.16			.05			.30	2.88	
Dows	Iowa				.63	.93	.32	.04										.28													.05	.32	2.57	
Dubuque	Mississippi		.37		.13	.27	.11				.03		.06									T.					.05		.28		T.		1.30	
Earlham	Raccoon				.13	.29	.95	.65	.03				T.		T.	.96			T.							.30	.07		.23			.17	3.78	
Elkader	Mississippi					.65	.57				.31																.07						1.60	
Elma	Wapsipinicon				.35	.15	.17				.93		T.		T.	.20			.50		T.						.17		.05		T.		2.52	
Estherville	Des Moines					.98	.10	.05	1.00		.45	.70	.20						.90				T.				.02					.35	4.75	
Fairfield	Skunk				.03	1.35	2.57	.70	.02		1.48	.01	.10													.90	.30	T.			T.		7.61	
Fayette	Mississippi				.20	.50	.25				.60							T.				T.			T.	.10				T.		1.65	
Forest City	Cedar				.75		.05	T.			1.40								.73				T.				T.					.20	3.13	
Fort Dodge	Des Moines				.20	1.30	.51	.35			.69		.47			.36			.77								.17					.47	5.29	
Ft. Madison	Mississippi				T.		2.20	2.55			.34	T.	.10													T.	.60	T.	.20		T.		5.99	
Gilman	Iowa				.61	.60	3.13			T.	.25		.32			.25			.02							.01	.09	T.			.05		5.33	
Grand Meadow	Mississippi				.17	.40	.26				.43																.03	.01	T.		T.		1.30	
Greene	Cedar				.42	.30	.22				1.74		.06						.07							T.	.10						2.91	
Grinnell	Iowa				.63	1.41	1.90	.09					.04		T.	.03			.09				T.			.06	.29		.30	.01			4.85	
Grundy Center	Cedar				.50	.29	.38	.14	.02		.02		.18						.17								.04	T.				.30	2.04	

TABLE 2.—*Daily precipitation for July, 1909. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Iowa—Cont'd.																																	
Guthrie Center	Raccoon			T.	.18	.34	1.75	.01	.03		.01	T.	.11		.21	.02		.72	.04			T.				.60	.08				T.	.48	4.58
Hampton	Cedar				.92	.10	.15			1.06								.40								.05					.05	2.73
Humboldt	Des Moines				1.02	.60	.44	.07			1.08								.98								.04					.30	.36	4.89
Independence	Wapsipinicon				.05	.96	.40	.01																			.11						1.53
Indianola	Des Moines			T.	T.	.29	.82	.01	T.				.07		.07				.02				.05				.09	.25		T.		T.		1.67
Iowa City	Iowa					.79	2.19	1.40	T.					.17		.02							.07				.15	.05	.63	.05	.20	.03	5.75
Iowa Falls	do					.85	.34	.28	T.	T.	.16		.06	T.		T.			.15				T.				T.	T.	.07			.16	2.07
Jefferson	Raccoon					×1.75	2.25								.10				.53			T				.32	T				.10		5.49
Keokuk	Mississippi			T.		1.49	2.22	.83				.04	.25			T.							.02				.08	.28	.21	.04				5.46
Keosauqua	Des Moines			T.	.90	2.40	2.03	.26				T.		22									.03					1.07	.03					6.94
Knoxville	do				.27	.85	1.80	.25			T.		.12						T.				2.22			.04	.13	T.	.40		T.	.40	6.48
Lacona	do					1.80	.78	.02					.10						.03				.80				.10		.18		.12		4.83
Le Claire	Mississippi			.50		.53	.71	.32				.95		.02		.15											T.	.12	.01	.10		T.	3.41
Marshalltown	Iowa					1.58	.50	1.19	.02		.16					.09			.11								.14						.11	3.90
Mason City	Cedar				.60	.21	.28				.97		.02						.07								T.						.09	2.24
Mt. Pleasant	Skunk				.04	1.95	1.48	.95			1.01		.12										.07				.03	.19		.55				6.39
Muscatine	Mississippi			.07		.18	1.00	.88	.15					.22		.70											.10	.02	.18	.10			.03	3.63
New Hampton	Wapsipinicon				.30	.52	.14	T.			.55		T.	.05					.07				.10				.16	.05						1.94
Newton	Skunk				.41	.83	.95	.13					.06			.52											.33				T.			3.23
Northwood	Cedar																																
Olin	Wapsipinicon			.04		1.50	.05									1.00					.80						.06				.10		3.55
Osage	Cedar					.61	.25				.75																T.						1.61
Oskaloosa	Des Moines	.19	.78	.92	.20								.03						.03				.90				.30	.14	.25	.08			.12	3.94
Pella	do				.13	.86	.27	.08			T.		.08		T.	.03			T.					.83			.13	.03		.27		T.	.21	2.92
Perry	Raccoon				.25	1.06	1.35	.03	T.				.09		T.				.75								.50	.10		.05			1.20	5.38
Plover	Des Moines				1.95	.20	.26	.09		.25	.05	.05	.05		.15				.85				.05									.20	.35	4.50
Pocahontas	do				1.24	.42	.36	.04		.22	1.52	.08			.05				.55				.02				.06	.02				.56	.69	5.83
Ridgeway	Mississippi				.40	.06	.32			.38			T.													.04	.02		.02		.01		1.24
Rockwell City	Raccoon				1.85		1.15	T.			1.10	T.			.20				.65						T.	.32					.20	.95	6.42
Sac City	do				.75	.32	.73	.05	.02	.04	.62	.08	.09		.10				.27				.03				.13					1.31	.05	4.59
St. Charles	Des Moines					.46	.80	.10	.06				.10		.02	.18								.06			.24	.09		.10				2.21
Sigourney	Skunk				.01	.70	.70	.35					.04											.12				.53		.25				2.70
Stockport	do				T.	1.52	4.62	1.06			.54	T.	.09	T.		T.								.10			.11	.46	T.	T.		.04	.03	8.57
Storm Lake	Raccoon				1.40	.25	.17	.06	.05			1.01			.30				.76				.02				.06	.04				1.75		5.87
Tipton	Cedar			.08		.25	.93	1.37	.16										.08				T.				T.		.12	.77	.41			4.17
Toledo	Iowa					.55	1.70	2.01	.08		.25		.08			.15			.07									.15		.12			T.	5.16
Wapello	Iowa			.06		1.07	1.84	.41			.79		.14											.07				.05	.01	.05			T.	3.99
Washington	Skunk					.68	1.11	.37	.02		.05		.02										.08				.20		.15					2.68
Waterloo	Cedar				.47	.22	.15				.04		T.		T.			.09					T.				.20	T.			.03			1.20
Waukee	Raccoon				.33	.36	1.52	.04	T.		.03		.05		.10	.20			.33								.16	.06		.02			1.25	4.45
Waverly	Cedar				.29	.42	.18				.25		.04						.08									.23	.03				.05	1.57
Webster City	Des Moines				.35	.38	.70	.15			1.04		1.18		T.	.51			.42				T.				T.	.10				T.	.49	5.30
West Bend	do				1.20	.19	.13	.05	T.	.18	.67	.16	.68	T.					1.17				.08				T.	.02				.86		5.29
Whitten	Iowa				.42	.55	.66	.58				.57			T.	T.			.20				T.				T.	T.	T.			T.	T.	2.98
Wilton Junction	Cedar				1.96	.15		.70																		.25		.24					3.30
Winterset	Des Moines				T.	.44	.93	.06	.03		.02		.10		T.	.17			T.							.35	.09		.12			.08	2.39
Zearing	Iowa				.27	.68	1.08	.04			.23				.03	.04			.32							.13						.27	3.09
Missouri.																																	
Darksville	Chariton					.65		2.25				.35	.70													.55	.65				.10		5.25
Gorin	Mississippi					2.00	4.50	1.85			.05	.04	.29													.45		.04					9.22
Hannibal	do					1.70	.90	1.05			.01	.12	.35	.01		T.										.16	.43	T.	T.				4.73
Lousiana	do					1.07		.73	.04				.70						.08				T.		.80	.10	1.10						4.62
Mexico	do				**	.20	T.	1.52	.25		**		.48	.12	.91	**	.01		**	.24						**	2.10	.05	.13		.06		6.07
Steffenville	Mississippi					3.07	1.10	1.38					.52													.12	.75	1.03	.43			.25	8.65
Sublett	Chariton					3.50	3.00	2.50				1.25	1.35													.40	.35	.25					12.60
Warrenton	Mississippi						.08	1.13	1.27			.71	.01	.04		.06											1.26	.04	.03					4.63
Indiana.																																	
Collegeville	Iriquois			.12		.41	.38	.13				1.25	.20			.05			1.33				.50				.05		T.	.60		T.	5.02
Knox	Kankakee			.12		.39	.13					1.18	.05	T.		T.			.34				.25	.03						1.52			4.01
Laporte	do			.14		.14										.07			.78				1.10				.08			.38		.10	2.79
Plymouth	do			.21		.26	.02					T.	.30			.11			.40				.31							1.97			3.58
Illinois.																																	
Aledo	Mississippi			.04		1.17	1.28	.40			.03		.06										.03				.14	.02	.90			.03	4.10
Alexander	Illinois					1.75	.15	.36	.03			2.27	.80						T.				T.				.45	.01	.21		T.	.08	6.11
Antioch	do			.65	T.	T.					.50																						1.15
Ashton	Mississippi			T.		.38	.42												.10									.12					1.02
Astoria	Illinois					T.	1.50	1.00	.70			.11	.50			T.			T.				.05			T.	.82	.05	T.		T.	T.	4.73
Aurora	do			.02		.11	.07									.04							.18				T.		T.	.06			0.48
Beardstown	do					.71	2.01	.54	.24				1.04	.32						.30				.06			.70	.08	.70			.10	6.09
Bement	Mississippi					1.85	.67	1.09				1.40	1.85	.08					.13								.13						7.20
Benton	do							1.50	2.40			3.50	.05	2.45	.05												1.00	1.50					12.45
Bloomington	Illinois					1.11	.68	.84				T.	.11			T.			T.					.16			.25						3.15
Cairo	Mississippi						T.	.22	.09		T.	.49		T.		.11							.17				1.93	.12		T.	T.	T.	3.13
Cambridge	do			.18			.90	1.06	.08			.93	.16	.03													.09						3.43
Carlinville	Illinois					2.24	.09	.77	.03		T.	.51	.65						.07				T.				.90		T.			.15	5.41
Carlyle	Mississippi					.45		1.10	.20		.10	.60	.15	.65													.95					.35	4.55
Chester	do						.04	.92	1.36		.01	.04	.16	.28	T.								.28				.96	3.20		T.		T.	7.25
Chicago	Illinois		.87		.03	.09	.03					T.	T.			T.			.13				T.				.02	T.	.06	.54		T.	1.77
Coatsburg	Mississippi					3.09	.30	1.26					.18	.32					.04							T.	.72		T.				5.91
Cobden	do							2.35	.20		T.	1.00	.07										.18			.98		6.15			T.	10.93
Colchester	Illinois																																
Dakota	do			.41	T.	.07	.06							.06		.30											T.		.38	.08		.01	1.37
Decatur	do					1.64	.88	.60	.06			1.93	.54						.03				.03				.40	.02				.05	6.18
Dixon	Mississippi		.26			.87	.10				.11					.17											T.	T.					1.51
Du Quoin	do						.08	1.82			.05	3.00	1.53			.04							T.				.92	1.00				.28	8.72
Dwight	Illinois	T.		T.	T.	.62	.50	.07					T.			T.			T.				.22				.05	.02		.02			1.50
Galva	do				T.	1.23	1.20	.17			1.52	.03	.05			.01							.12				.27	.03	.02		.09		4.74
Grafton	Mississippi						.68	2.10	.62			.30		.16												2.10	.12		T.				6.08
Greenville	do																																
Griggsville	Illinois					1.68	.10	.35	T.			.30	.58														.46			.64	T.		4.11
Halfway	Mississippi							.78	1.56		T.	.84	.19	1.76	.03		.08										.60	.60					6.44
Havana	Illinois					1.08	6.15	1.31				.10	.22										.14				.73	.03	.08				4.84
Henry	do				T.	.96	.71	.08			1.04	.07	.05						.29				.45				.16		T.				3.81
Hillsboro	Mississippi						2.12	.45	.75			.38	.98	.25						.12				T.			.45	.35			.40		6.25
Joliet	Illinois		.06		T.	.57	.10						T.						.06				.51				.05			.34			1.69
Kishwaukee	Mississippi		.06			.09	.01									.14											.24	T.	.35	.36			1.25
Knoxville	Illinois				T.	1.90	2.70	2.20															.29				.22		.10				7.41
La Grange	do			.98		.13										T.			.12								.05			T.			1.28
La Harpe	do				T.	1.46	1.15	2.90				T.	.14						T.							T.	.53		T.				6.18
Lanark	Mississippi		T.	.52	.07	.18	.28						T.			.18							T.				.07	.02	.15	.06			1.53
La Salle	Illinois		.15		.03	.75	.49				.27	T.	.01	T.	T.	.01							.20				.08		T.	.53			2.52
Lincoln	do																																
Loami	do			T.		1.75	.35	.51				1.43	.43			T.			T.								.48	T.	T.				4.95
Martinton	do		.13		.05	.65	.54					T.	T.			T.		T.				.23					.05			.80			2.45
Mascoutah	Mississippi					.04		1.29			.16	3.51	.31	.48	.03				T.				.09				1.71	.03					7.63

TABLE 2.—*Daily precipitation for July, 1909. District No. 5*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Illinois—Cont'd.																															
Minonk	Illinois	.13	T.	....	T.	1.00	.50	T.	....	....	....	T.	T.	....	....	T.	....	....	T.	....	....	....	.10	....	....	....	.25	....	....	....	....	T.	1.98
Monmouth	Mississippi	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Morrison	do	....	....	.59	.02	1.66	.30	.02	....	....	....	.21	....	....	....	.32	....	....	....	....	....	....	T.	....	....	....	T.	....	.37	....	.10	....	3.59
Morrisville	Illinois	....	....	....	....	2.98	.31	.38	.01	....	....	1.46	.89	....	....	....	....	....	.07	....	....	....	T.	....	....	....	.56	....	....	....	....	.11	6.77
Mt. Vernon	Mississippi	....	....	....	....	....	....	.29	.80	....	....	.28	....	1.41	....	T.	.02	....	....	....	....	....	....	....	....	....	.05	.49	....	....	....	.69	4.03
Oregon	do	....	....	T.	....	.15	.15	....	....	....	....	....	....	....	T.	....	....	....	T.	....	....	....	....	....	....	....	T.	....	.15	....	....	....	0.45
Ottawa	Illinois	....	....	....	....	.86	.56	.08	....	....	.08	.03	....	....	....	....	....	....	....	....	....	....	.81	....	....	.09	....	....	....	.44	....	....	2.95
Pana	Mississippi	....	....	....	....	2.98	.90	1.15	....	....	....	1.46	1.31	.03	....	.06	....	....	....	....	....	....	....	....	....	....	.57	.02	....	....	....	.34	8.82
Peoria	Illinois	....	....	T.	T.	1.37	2.37	.34	....	....	....	T.	.03	....	....	.01	....	....	.01	....	....	....	.21	....	....	....	.21	....	T.	.02	....	....	4.57
Pontiac	do	....	....	.05	....	.95	.10	.36	....	....	....	T.	.03	....	....	T.	....	....	.11	....	....	....	.08	....	....	....	.47	.02	....	.12	....	....	2.29
Riley	Mississippi	....	T.	....	....	.15	.07	....	....	....	.11	....	....	T.	....	.15	....	....	T.	....	....	....	.01	....	....	....	.10	....	.04	....	....	....	0.63
Rockford	do	....	....	.14	....	.01	.07	....	....	....	....	....	....	T.	....	.20	....	....	.15	....	....	....	....	....	....	....	.01	.05	....	.05	T.	....	0.68
Rushville	Illinois	....	....	....	....	2.31	.59	....	....	....	....	.13	.31	....	....	....	....	....	T.	....	....	....	....	....	....	.65	T.	....	....	....	....	....	3.99
St. Charles	do	....	....	.02	....	T.	.13	....	....	....	....	....	T.	....	....	.02	....	....	.04	....	....	....	T.	T.	....	....	.04	....	T.	T.	....	.08	0.33
Springfield	Illinois	....	....	....	....	1.99	1.33	.13	....	....	....	1.32	.72	....	....	T.	....	....	T.	....	....	....	.03	....	....	.01	.57	.18	T.	....	.08	.11	6.47
Staunton	Mississippi	....	....	....	....	.60	....	....	....	....	....	.49	.48	....	....	....	....	....	....	....	....	....	.09	....	....	....	1.04	....	....	....	....	....	2.70
Streator	Illinois	....	....	.08	....	.35	.65	.55	....	....	....	....	....	.02	....	.03	....	....	.07	....	....	....	.12	....	....	....	.10	.12	....	....	.51	....	2.60
Sullivan	Mississippi	....	....	....	....	1.51	1.68	.57	....	....	....	.50	.33	.09	....	.18	....	....	.03	....	....	....	....	....	....	....	.26	.16	....	....	....	.27	5.58
Sycamore	do	....	....	.02	....	T.	....	....	....	....	....	T.	....	....	....	T.	....	....	....	....	....	....	....	....	....	....	....	....	.05	.55	....	....	0.62
Tilden	do	....	....	....	....	....	....	1.40	.60	....	.03	2.25	.01	.06	T.	....	....	....	....	....	....	....	T.	....	....	.90	.50	....	....	....	....	.39	6.14
Tishkilwa	Illinois	....	....	.09	T.	1.15	1.02	.03	....	....	.27	....	.04	....	....	.02	....	....	.13	....	....	....	....	....	....	....	.18	.05	.04	....	....	....	3.02
Walnut	Mississippi	....	....	.10	....	.95	.48	....	....	....	.06	....	.05	....	....	....	....	....	....	....	....	....	....	....	....	....	.11	T.	.08	....	....	....	1.83
Warsaw	do	....	....	....	....	1.02	2.22	1.52	....	....	....	.02	.30	....	....	....	....	....	....	....	....	....	....	....	....	....	.39	.19	....	....	....	....	5.66
White Hall	Illinois	....	....	....	....	2.08	.05	.85	.01	....	T.	.33	.76	....	....	T.	....	....	T.	....	....	....	....	....	....	T.	.70	.43	T.	....	....	.81	6.02
Windsor	Mississippi	....	....	....	....	2.33	1.28	.78	....	....	....	.71	.95	....	....	.08	....	....	.17	....	....	....	.02	....	....	....	.34	....	....	....	....	.14	6.80
Winnebago	do	....	.18	.03	....	.10	T.	....	....	....	....	....	....	....	....	.06	....	....	....	....	....	....	T.	....	....	....	.18	....	.18	.30	....	....	1.03
Yorkville	Illinois	....	T.	....	....	.50	.30	.10	....	....	T.	.02	....	....	....	.01	....	....	.75	....	....	....	.15	....	....	....	T.	....	....	.41	....	....	2.24
Zion	Mississippi	....	....	....	.03	.25	.10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.05	....	....	....	....	0.43

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.																	
	Bottineau.‡‡		Devils Lake.		Lisbon.‡‡		Minot.‡‡		Pembina.‡‡		Collegeville.		Crookston.‡‡		Grand Meadow.		Montevideo.‡‡		Moorhead.		New Ulm.‡‡		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	84	51	84	54	87	60	85	51	82	50	88	60	84	57	93	65	89	65	85	60	91	69	87	60	87	67	88	55
2...	69	57	74	52	80	66	70	60	72	58	91	70	71	64	92	69	90	72	78	59	95	69	84	64	92	60	81	67
3...	71	50	71	47	74	65	76	49	81	48	75	50	73	50	84	52	74	54	76	50	80	58	74	58	73	55	78	46
4...	75	55	72	55	68	64	73	57	78	55	73	54	78	56	62	50	62	59	70	56	64	60	74	44	65	56	76	51
5...	71	53	67	52	68	62	66	56	82	52	67	49	79	53	63	51	63	55	70	50	67	56	73	43	69	55	81	49
6...	66	54	73	57	76	61	67	58	84	53	76	54	83	60	63	56	73	57	82	60	71	56	84	53	74	59	84	52
7...	66	59	76	56	74	55	68	60	80	60	80	51	85	57	82	54	79	56	80	56	82	57	84	49	82	61	84	55
8...	73	58	76	62	83	59	76	58	81	60	81	63	84	65	83	60	75	56	84	65	82	66	85	70	82	62	82	59
9...	73	56	73	58	80	55	69	55	81	61	81	65	75	59	85	67	84	66	80	57	85	67	82	65	84	70	81	66
10...	75	44	75	50	80	49	80	41	81	52	82	60	76	55	82	62	84	53	79	54	86	65	83	63	82	64	82	62
11...	70	56	69	58	76	55	77	55	78	56	81	59	83	58	83	62	80	64	80	56	85	66	78	50	73	62	79	53
12...	76	50	73	55	71	54	73	55	81	57	75	56	72	60	80	60	76	57	74	56	80	60	74	48	78	62	76	60
13...	72	54	76	56	80	51	78	52	76	56	82	55	77	57	82	56	83	55	81	55	82	58	84	50	81	59	85	59
14...	67	48	70	54	14	55	65	52	67	52	80	61	73	60	80	55	78	60	76	59	81	65	73	53	79	61	75	60
15...	72	49	71	52	74	54	70	51	68	52	75	55	72	57	77	54	78	55	74	55	82	56	74	57	75	58	74	59
16...	78	49	76	52	80	49	81	49	81	49	83	54	77	53	84	51	85	53	80	54	86	56	80	58	80	58	83	59
17...	79	57	80	57	83	52	88	52	88	59	86	59	82	56	82	59	88	57	84	54	90	57	84	56	84	61	85	59
18...	79	61	78	61	80	61	89	64	72	55	80	54	82	60	83	60	80	64	82	61	85	61	82	54	76	60	78	50
19...	76	62	84	66	92	61	82	70	76	59	81	60	89	63	77	57	89	56	92	69	85	66	86	57	79	62	81	53
20...	80	60	85	66	90	67	90	64	78	64	93	69	86	65	88	63	93	66	89	69	73	67	88	67	90	68	84	65
21...	71	62	70	59	82	61	67	52	74	61	90	68	79	68	89	65	87	75	82	63	91	73	83	67	87	69	83	64
22...	70	49	75	52	75	51	81	52	72	52	84	58	75	58	78	60	78	59	76	57	79	61	74	56	77	61	75	60
23...	80	52	79	48	79	50	83	49	80	53	81	55	79	53	82	53	82	53	78	52	82	57	79	58	79	57	81	57
24...	79	57	83	60	85	50	81	56	80	58	82	60	83	58	81	55	84	55	82	54	85	56	73	53	83	59	82	54
25...	85	59	86	63	79	61	90	56	78	58	80	61	74	64	78	57	79	62	78	64	84	60	76	50	82	60	77	59
26...	80	63	82	62	85	61	82	62	82	60	75	60	78	62	69	60	77	62	82	60	80	63	73	53	72	61	70	61
27...	82	65	80	65	78	60	85	64	74	60	74	60	79	64	73	60	76	57	76	62	77	60	74	56	73	59	74	61
28...	75	59	78	58	81	60	79	60	78	60	91	63	80	65	88	61	93	56	82	64	93	64	87	63	89	67	85	65
29...	78	49	77	52	77	52	80	52	78	55	89	64	77	57	92	73	86	63	77	56	87	72	81	60	84	70	80	61
30...	83	54	84	59	81	51	89	58	81	55	84	58	83	57	81	57	85	55	80	56	90	59	80	50	85	63	81	55
31...	86	55	89	62	89	60	91	54	82	59	87	62	88	62	91	59	88	55	88	59	90	59	87	57	87	63	85	61
Mns	75.5	55.1	77.0	56.8	79.4	57.2	78.4	55.6	78.3	56.1	81.5	58.9	79.2	59.1	80.9	58.8	81.2	59.1	79.9	58.1	83.5	61.9	80.0	56.2	80.1	61.6	80.3	58.0

Date.	Wisconsin.														Iowa.													
	Delavan.		Eau Claire.		La Crosse.		Madison.		Mauston.		Spooner.		Wausaw.		Algona.		Cedar Rapids.‡‡		Charles City.		Davenport.		Des Moines.		Dubuque.		Keokuk.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	86	64	88	68	89	70	86	68	85	65	85	63	83	65	89	68	93	70	90	68	93	69	91	69	88	70	90	70
2...	89	57	93	65	96	63	89	57	88	62	87	51	90	61	93	70	93	72	93	69	92	69	94	70	92	67	92	70
3...	77	48	76	51	76	53	70	54	75	49	71	43	72	45	85	59	73	60	88	57	74	59	81	63	74	55	88	64
4...	72	43	75	50	67	53	68	53	70	49	74	47	66	61	69	53	69	54	65	54	71	56	65	54	66	54	78	54
5...	67	53	78	51	71	57	65	54	68	52	78	45	75	45	60	52	62	53	62	53	62	52	63	56	63	53	74	58
6...	72	52	79	53	71	57	68	54	70	48	83	53	80	50	64	57	64	54	62	57	63	58	66	60	64	57	77	61
7...	79	50	87	54	64	55	78	57	80	48	86	52	82	54	76	58	76	58	80	60	77	60	69	61	80	59	69	65
8...	81	50	85	55	85	57	82	58	84	48	85	57	84	53	81	63	83	63	83	64	82	60	83	65	83	60	83	68
9...	87	54	86	69	86	69	83	60	84	54	83	66	83	63	82	68	87	63	84	66	87	66	85	71	85	66	89	66
10...	88	58	85	66	84	65	82	66	81	64	82	55	85	66	84	63	88	67	83	64	89	69	85	67	86	67	86	71
11...	82	65	83	57	84	63	80	67	84	59	76	53	80	59	84	66	79	68	81	66	78	69	84	66	80	70	84	66
12...	83	59	79	63	85	66	81	66	80	68	74	57	78	63	81	62	82	69	82	63	78	67	82	66	82	67	83	67
13...	83	59	84	57	84	60	80	63	80	60	81	51	82	57	84	63	83	62	80	59	80	65	81	63	81	63	83	66
14...	86	54	82	58	85	60	82	65	80	56	79	58	83	58	80	57	86	62	81	58	85	64	86	62	83	62	86	67
15...	83	64	79	58	82	58	80	65	78	58	79	55	77	55	79	55	86	64	79	57	83	68	83	64	81	67	84	68
16...	83	55	81	57	82	59	77	60	78	57	79	52	74	53	80	56	85	60	80	57	82	62	84	61	80	61	84	62
17...	85	61	89	55	87	59	82	59	82	52	82	54	83	50	89	58	89	60	88	56	86	63	90	65	85	61	88	64
18...	75	61	85	53	81	58	75	58	75	57	80	50	76	51	87	60	83	63	82	63	82	62	87	65	80	63	87	72
19...	78	42	75	52	77	54	77	56	76	47	74	52	75	51	80	62	80	59	78	60	80	57	81	64	79	54	80	58
20...	82	54	91	64	90	64	82	57	83	60	87	64	87	60	89	66	88	62	88	61	85	62	89	66	85	59	84	62
21...	85	60	88	71	91	68	84	62	85	67	83	67	82	65	88	69	90	63	90	64	87	63	90	65	88	64	88	61
22...	80	60	86	63	77	63	76	61	82	62	73	59	79	59	80	60	80	66	77	62	78	64	78	65	79	64	84	71
23...	83	56	79	53	81	55	77	61	76	56	78	51	74	54	79	55	83	59	80	56	82	59	80	59	80	60	80	61
24...	85	45	85	53	86	52	81	57	83	45	80	52	82	49	83	53	83	57	83	53	82	59	82	59	83	55	83	64
25...	85	54	85	55	83	59	82	63	81	54	80	57	84	53	74	58	81	57	76	57	81	63	70	61	80	59	81	64
26...	78	62	79	61	74	65	74	63	75	62	74	57	77	61	73	60	66	61	68	60	66	62	68	61	69	63	70	60
27...	77	59	75	57	77	59	74	63	75	59	75	55	76	53	78	63	76	61	77	62	76	63	78	63	76	63	80	65
28...	86	66	88	63	91	69	85	70	88	65	84	63	82	63	89	70	91	64	89	69	90	72	90	72	88	71	88	70
29...	98	65	88	67	95	67	95	72	95	75	81	61	90	68	89	73	97	73	92	67	96	76	96	76	96	75	93	77
30...	86	59	87	57	85	59	85	64	84	66	80	63	87	55	82	70	82	68	81	69	85	69	81	67	84	65	88	74
31...	90	65	91	61	91	62	88	66	88	58	86	61	86	58	85	57	91	66	88	60	89	68	87	65	89	66	88	69
Mns	82.3	56.6	83.6	58.6	83.1	60.6	79.6	61.3	80.4	57.5	80.0	55.3	80.5	56.7	81.2	61.5	82.2	62.5	81.0	60.7	81.3	63.8	81.6	64.2	80.9	62.6	83.6	65.6

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 5*—Continued.

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.													
					Cairo.		Greenville.		La Salle.		Mt. Vernon.		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	91	64	90	61	89	73	.....	.....	92	67	92	70	92	64	92	67	87	67
2	93	71	91	57	94	74	.....	.....	93	62	97	70	91	61	94	66	91	62
3	78	63	91	54	92	73	.....	.....	71	56	83	73	76	56	79	57	74	52
4	80	57	73	46	80	64	.....	.....	71	49	76	62	75	54	78	51	72	46
5	72	62	70	54	91	66	.....	.....	61	55	75	56	62	56	66	59	63	53
6	85	66	73	52	94	78	.....	.....	63	57	97	56	68	59	76	62	65	53
7	72	68	85	59	86	74	.....	.....	80	61	79	68	73	63	72	65	80	52
8	84	69	85	56	82	73	.....	.....	82	60	88	68	84	62	84	64	85	55
9	89	67	91	55	85	73	.....	.....	86	59	85	65	87	58	87	64	90	55
10	81	67	89	65	77	72	.....	.....	86	69	81	65	86	68	81	67	90	67
11	87	66	91	65	87	73	.....	.....	82	68	89	70	84	68	86	69	83	66
12	83	64	93	65	93	77	.....	.....	80	68	92	73	81	62	87	65	83	70
13	84	63	91	59	88	72	.....	.....	82	65	90	67	83	62	84	64	84	60
14	85	66	91	59	89	72	.....	.....	84	64	89	65	84	62	84	68	86	60
15	84	64	88	61	88	71	.....	.....	84	68	92	67	84	63	86	67	80	58
16	84	60	83	61	85	72	.....	.....	82	62	86	63	82	59	83	64	84	56
17	88	64	87	58	86	69	.....	.....	86	60	90	62	85	59	86	65	86	55
18	88	69	85	61	89	71	.....	.....	78	57	91	60	82	58	87	61	77	56
19	82	61	87	49	83	69	.....	.....	80	51	83	57	81	47	80	54	81	44
20	84	58	82	54	83	66	.....	.....	85	56	83	56	84	57	83	59	89	53
21	87	61	86	56	91	67	.....	.....	88	60	93	56	87	59	89	59	93	59
22	81	67	87	66	89	75	.....	.....	80	66	93	68	79	62	83	68	79	64
23	80	61	79	60	81	69	.....	.....	82	60	83	62	81	58	81	62	81	55
24	83	61	81	54	82	66	.....	.....	82	55	82	62	83	52	83	58	84	52
25	77	60	90	54	82	66	.....	.....	82	57	83	55	82	54	82	62	87	54
26	70	60	83	61	73	63	.....	.....	70	63	70	64	67	61	68	61	73	60
27	86	67	80	61	87	68	.....	.....	77	63	90	63	78	63	84	65	77	62
28	89	74	95	65	91	75	.....	.....	90	72	94	70	90	69	92	72	88	70
29	91	76	93	71	93	76	.....	.....	95	70	95	74	94	75	92	77	97	73
30	85	73	85	65	90	75	.....	.....	89	70	95	74	88	72	88	71	86	62
31	88	67	91	65	88	74	.....	.....	89	66	87	71	87	67	85	69	93	66
Means	83.6	65.0	86.0	59.0	86.7	71.2	.....	.....	81.7	61.8	87.2	64.9	81.9	61.0	83.3	63.9	82.8	58.6

Climatological Data for July, 1909.

DISTRICT No. 6, MISSOURI VALLEY.

J. WARREN SMITH, District Editor.

SUMMARY.

Heavy rains caused much damage by floods in the lower Missouri Valley during July, but over most of this district the weather of the month was favorable for harvesting and the advancement of crops.

In Montana rainfalls of 1 inch in twenty-four hours are comparatively rare, but there were numerous instances of rains greatly exceeding this amount during this month. The fall over the greater part of the State was so much above the normal for July, that the usual irrigation of crops was almost entirely dispensed with.

Except some damage by hail the weather in North Dakota was very favorable for the growth of crops and for harvesting. There was very little rust reported in alfalfa. A very large yield of grain was assured at the close of the month.

Some damage was done on lowlands in the southeastern part of South Dakota by excessive rains near the first of the month, and damage was done by hail and wind in Beadle and adjacent counties on the 30th. The sunshine was generally ample. There have been but six Julys in the past nineteen years in which the average precipitation for the State has been greater than this year.

The temperature averaged from 1° to 3° above the July normal in most of Wyoming, while the rainfall was in the form of showers and was unevenly distributed. The sunshine was nearly 80 per cent of the possible amount.

The mean temperature for the month was unusually high in Colorado, but this was due to a succession of moderately hot days, rather than to unusually high maximum temperatures. There were frequent and occasionally heavy thunderstorms, while the sunshine in the eastern part of the State averaged 82 per cent of the possible amount.

In most of the western third of Nebraska the rainfall was from one-half to two-thirds of the normal amount, while in eastern counties it was much above the normal. But as more than half of the monthly fall in the region where the rainfall was excessive occurred in three or four successive days in the early part of the month, a large proportion ran off and a relatively small proportion was available for the growth of vegetation. There was some damage by floods in this State. Except during the first twelve days there were few of the thunderstorms with heavy rainfall which are common in July in this State.

Heavy rain fell in that part of southern Iowa that is in this district during the first decade, and much damage was done by high water. Bottom lands were flooded for the third time this season, and corn and other crops were damaged and harvesting and cultivating greatly delayed. Notwithstanding this, however, corn made rapid advancement with the more favorable weather of the last two decades and it was one of the best harvest months on record. Rain was needed at the close of the month. A tornado occurred in Cherokee County on the 11th. During the night of the 9th a flood occurred in Perry Creek which caused the death of two men in Sioux City, Iowa, and a property loss in that city of $500,000. Very heavy rains in the watershed of this stream caused it to rise to a point that has not been exceeded in forty years, and to overflow sixty blocks of residence property, nearly all the railroad and wholesale district and a large part of the retail district of Sioux City.

The month was warm in Kansas and there was a large percentage of sunshine. The rainfall was below the normal in the western part of the State, but very heavy rains with damaging floods occurred in eastern counties. The rainfall of 18.67 inches which occurred at Osage City was the greatest monthly fall ever recorded in this State.

The rainfall was much above the normal in Missouri and serious loss resulted from the floods of the Missouri and its tributaries. The loss of crops and cattle, and damage to railroads and other property was especially heavy in the counties of Harrison, Gentry, Daviess, Livingston, Carroll, and Chariton. The Missouri River passed the flood stage at Glasgow on the 6th, Boonville on the 7th, and Hermann on the 9th. It reached 28.9 feet at Glasgow on the 11th, 28.3 feet at Boonville on the 13th, and 26.1 feet at Hermann on the 14th. It remained above the flood stage fifteen days at Glasgow and Boonville and ten days at Hermann.

The Mississippi River passed the flood stage at St. Louis on the 11th, reached 35.5 feet on the evening of the 16th, and was above the flood stage eleven days. The water was the highest at the places mentioned above ever recorded in the month of July. Railroad traffic was at a standstill for several days as tracks were under water or washed away. The Missouri Pacific Railway Company, states that the damage to their property amounted to $10,949, the Chicago, Burlington and Quincy Railroad Company, to $86,000, and the Missouri, Kansas and Texas Railway Company, $10,373. The Chicago and Alton Railroad Company had their traffic suspended nine days, while the Rock Island lines were heavy losers.

It is estimated that the loss of and damage to property such as railroads, live stock, farm buildings, and farm machinery amounted to about $700,000, and the value of crops destroyed was about $5,500,000. The Missouri and Grand rivers were out of their banks in places from 1 to 10 miles, and it is estimated that about 700,000 acres, 400,000 of which were under cultivation, were inundated. The total area submerged along the Missouri and its tributaries, below Kansas City and along the Mississippi between Hannibal and Chester was approximately 1,000,000 acres, more than half of which was under cultivation. A number of towns and villages were wholly or partly inundated.

The Secretary of the State Board of Agriculture estimates that 7.6 per cent of the corn crop was lost by the flood, and the loss of wheat 7 per cent by the flood and 4.8 per cent by damage in the shock. The flood warnings issued by the Bureau were made far enough in advance to allow the moving of much wheat, etc., to high ground. It is estimated that these warnings were instrumental in saving property valued at $1,000,000. So far as known only four lives were lost in this flood.

Except the damage by the floods the weather during the month was very favorable to crops in Missouri. The growth of corn was very luxurient. Wheat harvest progressed well, and oats were promising at the close of the month. The excessive rains caused a decrease in the yield of the second crop of alfalfa.

The temperature was below the normal in nearly all counties near the Missouri River and on its eastern and northern watershed, but it was above the normal over the plains and mountains in the southwestern part of this district. The extremes of temperature were about as usually recorded during this month, and there were no long periods of unusually warm or cool weather.

The rainfall was above the normal in most mountain sections, and much above the normal in the lower Missouri Valley. There were four well defined rainy periods in Montana: from the 3d to 7th, 9th to 11th, 19th to 21st, and 25th to 28th. The heaviest rainfall was immediately to the east of the continental divide. Unusually heavy showers occurred over a large part of this State on the 26th and 27th.

Showers were frequent in North Dakota, but were not generally excessive. In South Dakota showers were of rather frequent occurrence from the 4th to 14th, inclusive, and were heavy

enough in a few southeastern counties to cause some damage to lowlands.

The rainfall came in the form of summer showers in Wyoming and was unevenly distributed, as was also the case over the plains region of Colorado. In Nebraska the average precipitation for the month was slightly above normal, but an unusually large amount of the rain fell during the first twelve days. The hardest storm of the month in this State occurred on the 4th and 5th, in the eastern counties. At York, in the Blue River Valley, 5.24 inches of rain fell between 5:45 and 7:00 p. m. and 6.90 inches in less than twelve hours on the 4th..

Showers were frequent in Iowa from the 3d to the 12th, and were heavy with unusually low temperature from the 3d to the 7th. After the 12th the weather changed from wet and cool to comparatively dry and warm. The rainfall was generally deficient in western Kansas, but was very greatly in excess in the eastern part of the State. Daily rains occurred from the 6th to the 12th and during the latter part of the month. The excessive falls were mostly on the 6th or 7th.

In Missouri the average monthly precipitation for the State was 6.41 inches, and, with the exception of 1895 and 1905, was the heaviest during July for the past twenty-seven years. From the 5th to the 14th and during the last week of the month showers were of almost daily occurrence, particularly in the northern counties. On the 5–6th and 7–8th the rains were phenomenally heavy In Green, Bates, and Nodaway counties, 6 inches or more of rain fell in twenty-four hours, and in Harrison County the fall was over 10 inches.

Some damage was reported by hail in Montana, South Dakota, Nebraska, and Missouri. The prevailing wind was from the westerly in Montana and Wyoming, but from the south or southeast in other parts of the district. The highest wind velocity reported was 69 miles an hour from the northwest at Huron, S. Dak., on the 30th. The sunshine was generally up to the normal, and the amount was usually large in eastern Colorado.

Severe wind storms occurred in South Dakota, on July 30, and in Iowa on the 11th.

TEMPERATURE.

The temperature was below the normal in western and northern Montana, North Dakota, most of South Dakota, eastern Nebraska, western Iowa, north-central Kansas, and northern and eastern Missouri. It was above the normal in southeastern Montana, Wyoming, southwestern South Dakota, most of central and western Nebraska, western and eastern Kansas, and eastern Colorado.

Maximum temperatures of 100° or over were recorded in all of the States except North Dakota, Iowa, and Colorado. The highest reported in the district was 110° at Basin and Gillette, Wyo., on the 17th. The lowest temperature reported was 24° at Nye, Mont., on the 12th. Temperatures below freezing were recorded in the mountain districts of Montana, Wyoming, and Colorado. A minimum of 40° or lower was reached sometime during the month in North Dakota, South Dakota, and Nebraska, and of 50° or lower in the other States in the district.

PRECIPITATION.

The rainfall was above the normal except in North Dakota, northwestern Nebraska, and part of western Kansas. The greatest monthly fall was 18.67 inches at Osage City, Osage County, Kans. The rainfall was 15.25 inches at Amoret, Bates County, Mo., 12.20 inches at Mount Ayr, Ringgold County, Iowa, and 8.75 inches at Lone Tree, Choteau County, Mont. The greatest rainfall in twenty-four consecutive hours, was 10.71 inches at Bethany, Harrison County, Mo., on the 5–6th. It was nearly 7 inches at York, Nebr., on the 4th and 5th, and over 6 inches at Allerton, Iowa, on the 6th, and Amoret, Mo., on the 7th.

TABLE 1.—*Climatological data for July, 1909. District No. 6, Missouri Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Arapahoe [a]	Fremont										0.62		0.49	0.0	3	1	28	1		David Malloy.
Barnum	Johnson	5,509	4								0.99		0.40	0.0	4	22	9	0	w.	Thos. Freeguard.
Basin	Big Horn	3,862	10	75.2	+ 0.8	110	17	48	12†	50	0.77	+ 0.44	0.50	0.0	3	22	6	3	nw.	O. J. Robertson.
Bennett	Carbon										2.04		0.54	0.0	5	25	3	3	sw.	Chas. C. Young.
Cheyenne	Laramie	6,088	38	68.0	+ 0.6	93	17	44	13	37	1.08	− 0.91	0.39	0.0	6	17	14	0	s.	U. S. Weather Bureau.
Cheyenne Exp. Farm	do	6,000	3								0.97		0.38	0.0	7	10	21	0		Irrigation Inves. Office.
Chugwater	do	5,282	8	68.0		94	17	30	10†	50	1.40	− 0.05	0.60	0.0	3	21	10	0	w.	George Milne.
Clark	Big Horn	4,320	4	70.7		100	18	49	13†		1.55		0.87	0.0	7	18	11	2	n.	Chas. A. C. Snow.
Crystal Lake Reservoir	Laramie	6,900		63.8		88	17	35	13	46	2.50		1.00	0.0	6	9	19	3	sw.	L. E. Jenson.
Douglas	Converse	4,703		73.1		101	17	47	29	39	0.41		0.26	0.0	6					Henry C. Miller.
Dubois	Fremont	6,909	3	60.2		86	17	35	29	46	0.56		0.41	0.0	3	17	8	6	w.	Dr. F. H. Welty.
Eaton's Ranch	Sheridan	4,600	4	69.0		95	17	44	12†	39	0.66		0.45	0.0	4	23	8	0	nw.	F. A. Eaton.
Echeta	Crook										1.97		0.87	0.0	3	24	7	0	n.	M. R. Hunter.
Elk Mountain	Carbon		4								1.47	− 0.22	0.75	0.0	6					Wm. Richardson.
Encampment	do	7,322		65.2		87	3†	41	13	40	2.15		0.80	0.0	7	23	3	5	sw.	U. S. Forest Service.
Ervay	Natrona			66.0		92	2	36	8†	44	0.84		0.35	0.0	5	22	7	2	sw.	Frank Jameson.
Filmore	Albany	7,527	3								1.44	− 0.34	0.90	0.0	3					Jas. Dougherty.
Fort Laramie	Laramie	4,270	32	72.4	− 0.6	100	17	43	13†	51	0.38	− 1.07	0.29	0.0	2	24	7	0	ne.	John Hunton.
Gillette	Crook	4,546	3	69.5		110	17	46	12†	45	2.92		1.10	0.0	6	23	5	3		S. D. Perry.
Granite Canyon	Laramie	7,373	4	62.6		88	17	35	13	41	2.09		1.00	0.0	8	25	4	2	s.	Wm. Boyce.
Hunter's Station	Johnson	8,000	3	56.9		82	16	32	14	42	0.77		0.34	0.0	7	22	8	1	w.	August Hettinger.
Hyattville	Big Horn	4,632	10	70.3	+ 0.6	99	17	37	12	44	0.07		0.05	0.0	2	22	7	2		Wm. Booth.
Independence	Natrona			65.6		96	18	35	26	55	1.05		0.40	0.0	3	20	9	2	sw.	Henry D. Schoonmaker.
Kaycee	Johnson		8	73.6		104	3	40	13	50	2.10	+ 0.72	0.47	0.0	5	24	7	0	sw.	A. Grigg.
Kirtley	Converse		5	68.2		95	17	40	13	42	0.49	− 0.92	0.34	0.0	2	27	3	1	s.	D. M. Zum Brunnen.
Kirwin	Big Horn	9,187	1	52.6		75	1†	31	21	35	1.94		0.75	0.0	9	18	9	4	w.	C. L. Tewksbury.
Knowles	Crook										2.32		0.72	0.0	10					G. A. Knowles.
Lander	Fremont	5,372	17	68.5	+ 0.5	96	2	41	8	48	0.31	− 0.55	0.16	0.0	4	16	14	1	sw.	U. S. Weather Bureau.
Laramie	Albany	7,188	18	65.0	+ 2.7	90	17	42	8	42	1.00	− 0.55	0.40	0.0	6	21	4	6	s.	University of Wyoming.
Leo [b]	do	6,878	8	64.1		90	17	34	13	49	0.44	− 0.11	0.20	0.0	4	21	6	2	w.	C. A. Cowdin.
Lolabama Ranch	Big Horn	7,052	6	57.6		88	17	30	12†	49	1.40	+ 0.13	0.80	0.0	4	19	12	0	w.	Mary E. Painter.
Lovell	do		4	70.4		102	17	43	13	50	0.67		0.29	0.0	5	18	7	6	n.	R. Fred Harrison.
Lusk	Converse	5,007	19	70.8	+ 2.6	95	24	43	27	43	0.75	− 0.74	0.75	0.0	1					D. E. Goddard.
Luther	Laramie										2.15		0.81	0.0	4					Henry D. Colburn.
Manville	Converse	5,050									0.81		0.40	0.0	6	27	4	0	se.	C. A. Sherman.
Moorcroft	Crook	4,211	6	70.3		104	18	41	13	52	0.94	− 0.59	0.60	0.0	2	25	6	0		Jas. K. Somers.
Moore [d]	Albany	6,000	8	65.6		91	17	38	22	46				0.0		16	11	0	w.	Edwin Moore.
Newcastle	Weston	4,319	2	72.6		101	17†	44	22	39	2.06		1.31	0.0	6	18	13	0	nw.	Dr. S. W. Johnson.
Pathfinder	Natrona	5,735	3	70.6		98	17	45	13	45	0.40	− 0.55	0.22	0.0	3	23	6	2		U. S. Reclamation Service
Phillips	Laramie	4,900	6	69.4		93	18	41	22	43	4.22	+ 1.89	1.41	0.0	6	23	7	1	w.	Mrs. Arthur Rugg.
Pine Bluff	do	5,038	9	71.1	+ 2.7	97	2	43	11†	43	0.59	− 1.99	0.29	0.0	3	20	11	0	se.	C. W. Johnson.
Powell	Big Horn	4,376	2	71.0		100	17	46	12†	41	0.29		0.13	0.0	4	16	15	0	w.	U.S. Reclamation Service
Riverton	Fremont		2																	Robert P. Quest.
Saratoga	Carbon	7,300	12	64.3	− 1.4	88	8†	40	16	44	1.19	+ 0.18	0.59	0.0	6	23	6	2	ne.	Supt., S. & E. R. R.
Sheridan (1)	Sheridan	3,790	14	68.0	+ 0.7	97	17	42	12	48	0.90	+ 0.12	0.68	0.0	7	18	9	4	nw.	U. S. Weather Bureau.
Sheridan (2)	do	3,738	14	66.6	− 0.7	95	17	40	13	49	0.96	+ 0.18	0.47	0.0	3	16	15	0	se.	U. S. Reclamation Service
Shoshone Dam	Big Horn	5,385	3	69.2		100	17	37	19	52	1.17		0.71	0.0	6	14	16	1	w.	Geo. Brundage.
Soldiers' Home	Johnson	4,635	17	70.4	+ 2.3	97	17	42	12	40	0.96	− 0.15	0.55	0.0	5	16	15	0	nw.	Geo. L. Courtney.
South Pass City	Fremont			57.6		84	2	30	13†	46	1.25		0.54	0.0	6	17	9	5	sw.	John Sherlock.
Thermopolis	do	4,350	7	72.6		104	17	42	12†	52	0.04		0.04	0.0	1	20	11	0	sw.	A. L. Duhig.
Upton	Weston										2.12		1.04	0.0	3	17	10	4	ne.	G. E. McPherren.
Valley	Big Horn	6,500									2.24		0.75	0.0	9	18	12	1	w.	Jas. L. McLaughlin.
Verona	Sheridan										1.00		0.50	0.0	3	11	19	1	se.	O. A. Roode.
Wiley	Big Horn	5,375		68.6		97	17†	42	12	40	1.68		0.90	0.0	8	15	12	4	w.	C. D. Marshall.
Wyncote	Laramie	4,207	2	71.2		95	17	44	22	41	0.82		0.40	0.0	3	23	6	2	e.	U. S. Reclamation Service
Yellowstone Park	National Park	6,200	22	60.8	− 0.8	88	2	36	12	40	1.85	+ 0.59	0.42	0.0	12	14	8	9	sw.	U. S. Weather Bureau.
(1) Fountain	do			58.2		87	1†	25	12	56	1.83		0.38	0.0	6	20	6	5	s.	U. S. Army.
(2) Grand Canon	do							27	12		3.20		0.60	0.0	10	15	1	13	nw.	Do.
(3) Lake Hotel	do	7,733	5	53.8		89	2	26	12	48	2.63		0.67	0.0	8	23	4	4	s.	Do.
(4) Norris Geyser	do	7,525	5	54.4		84	1†	26	12†	49	2.25		0.55	0.0	9	15	11	5	s.	Do.
(5) Riverside	do	6,500	3	56.8		88	1†	27	12	54	1.81		0.50	0.0	11	15	14	2	s.	Do.
(6) Soda Butte	do	7,000	4	56.5		88	1	26	12	54	0.80		0.45	0.0	2	21	4	6	sw.	Do.
(7) Sylvan Pass	do	7,000	2	55.8		89	22	31	12†	55	2.11		0.72	0.0	5	19	5	6	sw.	Do.
(8) Thumb [c]	do			53.6		82	16	29	8†	48	2.47		0.75	0.0	6	18	5	3	n.	Do.
(9) Tower Falls	do			59.0		90	1	30	12	54	0.55		0.30	0.0	2	17	9	5	sw.	Do.
(10) Upper Basin	do	7,395	5					29	12		1.10		0.60	0.0	2	23	4	4	sw.	Do.
Montana.																				
Adams	Dawson		1	67.3		97	16	40	15	43	3.32		1.23	0.0	8	11	10	10	nw.	W. B. Ennis.
Adel	Cascade	5,200	11	61.6	+ 1.4	89	16	37	13†	41	5.74	+ 3.68	1.63	0.0	10	14	8	9	w.	B. F. Burch.
Agricultural College	Gallatin	4,700	10																	Prof. E. Burke.
Augusta	Lewis & Clark	4,071	10	60.4	− 1.8	89	1	35	14†	46	5.51	+ 3.56	2.28	0.0	5	23	5	3	w.	C. C. Covington.
Babb	Teton	4,461	4	56.4 [e]		83 [e]	1†	30 [e]	14†	44 [e]	6.06		2.23	0.0	5				sw.	U. S. Reclamation Service
Bald Butte	Lewis & Clark	6,500									2.45		0.80	0.0	11	18	6	7		M. W. Alderson.
Big Creek	Park	5,800									1.39		0.55	0.0	8	9	20	2		Peter Vink.
Big Timber Creek	Sweetgrass	4,070		68.6 [e]		101	1	41	14	48	1.24		0.50	0.0	8	14 [e]	12	0		
Billings	Yellowstone	3,115	15	70.0	− 1.6	105	1	39	14	53	2.16	+ 1.27	0.82	0.0	7				sw.	U. S. Weather Bureau.
Boulder Nursery	Jefferson		16	60.0 [e]	− 2.7	93 [e]	1	33 [e]	14	50 [e]	3.20	+ 2.05	0.81	0.0	10	13	13	5		R. H. Spencer.
Bowen	Beaverhead	6,060	3	55.7		88	2†	26	12	57	2.31		1.33	0.0	13	15	9	7		B. B. Lawrence.
Bridger	Carbon	3,664	1	71.2		105	16	44	12	54	0.80		0.36	0.0	5	12	16	3	n.	L. E. Gard.
Broadview Exp. Sta	Yellowstone		3	67.4		100	16	36	14	53	1.90		1.01	0.0	9	22	7	2	nw.	Thos. S. Hunt.
Browning	Teton	4,440									2.11		0.51	0.0	6	18	6	7	w.	Thos. B. Magee.
Busby	Rosebud		6																	
Busteed	Sweetbrass		2	66.2		95	1	39	14	47	1.67		0.50	0.0	6	14	16	1	nw.	T. H. Busteed.
Butte	Silver Bow	5,716	16	63.4	0.0	92	1	40	21	36	3.50	+ 2.17	1.10	0.0	9	17	3	11	w.	J. R. Wharton.
Canyon Ferry	Lewis & Clark	3,644	11	67.2	− 0.7	94	2	45	8†	43	2.47	+ 9.95	0.81	0.0	12	21	7	3	nw.	A. C. Pratt.
Cascade	Cascade	7,336	6	66.0		94	1	40	14	48	4.40		1.37	0.0	14	23	6	2	sw.	E. E. James.
Cataract Creek	Jefferson	7,000									4.85		1.60	0.0	13	15	13	3	w.	Fred Gerdes.
Chessman Res.	Lewis & Clark	5,275	1	57.4		85	1	35	14	36	3.15		1.00	0.0	10	24	3	4	calm	Chas. D.Schmidt.
Chester	Chouteau	3,140	6	67.8		92	18	40	27	44	1.54		1.00	0.0	5	29	10	1	w.	B. B. Weldy.
Chinook	do	2,502	13	67.7 [d]	− 2.2	92 [d]	1†	45 [d]	14†	37 [d]	2.87	+ 1.41	0.84	0.0	7	19	8	4	w.	Thos. O. Hanlon Co.
Chouteau	Teton	3,810	4	63.2		88	16†	38	8†	43	4.92		2.30	0.0	3	20	3	8		H. Van De Reit.
Clear Creek	Chouteau		4	64.4		92	16	40	15	33	3.96		0.98	0.0	10	18	10	3	w.	C. Sedgwick.
Clemons	Lewis & Clark	4,672									5.91		2.46	0.0	9	18	6	7	w.	Frank Eberl.
Columbus	Yellowstone	3,160																		O. F. Wilkinson.
Copper	Meagher										3.00		0.70	0.0	12	17	9	5	w.	Orville Harris.
Crow Agency	Rosebud	3,041	29	71.2	+ 0.3	101	1	40	14	47	0.69	− 0.52	0.31	0.0	5	27	3	1	nw.	F. E. Server.
Culbertson	Valley	1,927	9	70.8		100	18	45	29	41	3.83		1.22	0.0	7	6	19	6	nw.	G. H. Coulter.

TABLE 1.—*Climatological data for July, 1909. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Montana—Cont'd.																				
Cut Bank	Teton	3,700	11	63.8	+ 3.2	90	23†	40	13†	41	4.06	+ 2.16	2.23	0.0	4	19	8	4	w.	Chas. N. Thomas.
Decker	Rosebud	3,400	5	65.4	.....	100	15	36	4	59	T.	.....	T.	0.0	0	.....	.....	.....	.....	Adam Anderson.
Deep Creek	Broadwater	4,200	.....	.....	.....	.....	.....	.....	.....	.....	2.79	.....	0.91	0.0	7	.....	.....	.....	.....	Mrs. D. W. Maryott.
Delphine	Meagher	5,000	.....	.....	.....	.....	.....	.....	.....	.....	3.86	.....	1.42	0.0	14	12	15	4	w.	Tracy L. Holliday.
Denton	Fergus	.....	2	6.39[e]	.....	91[e]	16	42[e]	14	36[e]	5.46	.....	1.30	0.0	14	20	8	3	nw.	R. M. Chamberlain.
Dillon	Beaver Head	5,147	12	66.4	+ 2.4	90	1	41	28	36	3.78	+2.60	1.14	0.0	13	14	12	5	sw.	J. E. Monroe.
Dirty Creek	Meagher	6,000	.....	.....	.....	.....	.....	.....	.....	.....	4.82	.....	1.37	0.0	14	17	6	8	w.	Lewis Cameron.
Dry Creek	Broadwater	5,500	.....	.....	.....	.....	.....	.....	.....	.....	4.10	.....	1.22	0.0	10	16	9	6	sw.	J. C. Stuart.
Dry Wolf Camp	Cascade	6,000	.....	.....	.....	.....	.....	.....	.....	.....	2.22	.....	0.63	0.0	12	12	7	12	sw.	Mrs. R. J. Eveleth.
East Gallatin River	Gallatin	6,300	.....	.....	.....	.....	.....	.....	.....	.....	2.36	.....	0.99	0.0	7	18	13	0	w.	John Eberhart.
Ekalaka	Custer	.....	8	69.2	.....	100	17	38	14	43	2.25	.....	0.90	0.0	7	23	6	2	w.	W. Freese.
Elkhorn	Jefferson	6,576	.....	.....	.....	.....	.....	.....	.....	.....	2.05	.....	0.50	0.0	18	8	22	1	sw.	J. W. Skelton.
Evans	Cascade	4,900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Thrasher.
Fallon	Custer	2,208	5	70.6	.....	99	18	45	14†	43	2.26	.....	1.13	0.0	5	14	12	5	w.	Mrs. A. C. Gifford.
Family	Teton	3,950	1	65.0[e]	.....	99[e]	2	33[e]	19	51[e]	4.96	.....	3.04	0.0	4	23	3	5	w.	U. S. Reclamation Service
Fish Creek	Silver Bow	8,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. B. Tilton.
Fish Tail Creek	Carbon	5,000	.....	.....	.....	.....	.....	.....	.....	.....	1.56	.....	0.37	0.0	10	14	16	1	e.	O. E. Haskin.
Flathead Creek	Gallatin	6,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. G. Brown.
Forsyth	Rosebud	2,514	3	73.3[a]	.....	106[a]	1	44[a]	15	46[a]	2.49	.....	1.10	0.0	6	11	18	2	sw.	Thos. M. Patterson, jr.
Fort Benton	Chouteau	2,630	30	.....	.....	.....	.....	.....	.....	.....	3.86	+ 2.21	0.92	0.0	12	.....	.....	.....	.....	River Observer.
Fort Shaw	Cascade	3,500	21	66.0[a]	− 2.3	92	16	40[a]	14	41[a]	3.53	+ 2.47	0.98	0.0	8	9	19	3	se.	U. S. Reclamation Service
Fort W. H. Harrison	Lewis & Clark	4,004	6	66.4	.....	99	4	44	21	43	.....	.....	.....	0.0	...	21	10	0	s.	Post Hospital.
Foster	Yellowstone	.....	1	71.8	.....	105	1	43	14	50	0.97	.....	0.22	0.0	10	15	14	2	w.	E. K. Bowman.
Garneil	Fergus	5,500	1	58.0	.....	85	16†	34	14	39	3.09	.....	0.66	0.0	14	16	7	8	e.	J. E. Scally.
Glendive	Dawson	2,069	20	71.8	− 0.3	100	17	47	13	38	4.17	+ 2.39	1.64	0.0	8	17	9	5	nw.	W. B. Walker.
Goldbutte	Chouteau	.....	4	64.0	.....	92	16†	40	8	38	3.48	.....	1.00	0.0	8	12	17	2	sw.	J. T. Berthelote.
Graham	Custer	.....	4	70.8	.....	100	18	41	14	49	1.55	.....	0.90	0.0	3	10	13	8	nw.	J. S. Rue.
Grayling	Gallatin	6,700	6	54.3[d]	.....	82[d]	1†	26[d]	21	50[d]	1.74	.....	0.44	0.0	9	13[d]	11	3	sw.	P. Kerzenmacher.
Great Falls	Cascade	3,350	18	67.6	− 0.2	92	16	47	8†	37	5.45	+ 3.79	1.03	0.0	13	20	9	2	sw.	S. H. Bauman.
Half Moon Pass	Fergus	6,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thos. Stigen.
Half Way House	Broadwater	6,000	.....	.....	.....	.....	.....	.....	.....	.....	3.94	.....	1.10	0.0	14	16	10	5	ne.	Gordon Deans.
Harlowton	Meagher	4,165	2	64.1	.....	96	1	40	29	47	2.44	.....	1.05	0.0	3	9	11	11	w.	Jos. Muir.
Hassel	Broadwater	5,200	.....	.....	.....	.....	.....	.....	.....	.....	3.84	.....	0.96	0.0	13	6	18	7	sw.	E. C. Albrecht.
Havre	Chouteau	2,505	29	67.4	− 0.5	94	16	47	14	38	3.88	+ 1.99	1.36	0.0	14	19	7	5	e.	U. S. Weather Bureau.
Helena	Lewis & Clark	4,110	30	65.6	− 1.4	95	16	46	21	41	1.84	+ 0.69	0.78	0.0	9	17	9	5	sw.	U. S. Weather Bureau.
Highwood	Chouteau	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.29	.....	1.02	0.0	14	17	5	9	ne.	W. S. McCord.
Home Park	Madison	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.38	.....	0.81	0.0	9	24	7	0	e.	H. L. Miller.
Huntley	Yellowstone	3,014	4	71.9	.....	103	1†	42	14	51	1.33	.....	0.82	0.0	3	14	17	0	e.	U. S. Reclamation Service
Jones Canyon	Gallatin	6,800	.....	.....	.....	.....	.....	.....	.....	.....	2.45	.....	1.00	0.0	14	10	21	0	w.	Jas. McCune.
Jordan	Dawson	.....	5	70.5	.....	103	1	45	15	48	4.71	.....	1.54	0.0	8	17	2	12	nw.	W. S. Henderson.
Kleinsmith Creek	Jefferson	6,000	.....	.....	.....	.....	.....	.....	.....	.....	2.81	.....	0.77	0.0	11	12	19	0	w.	Mrs. E. W. Mills.
Lewistown	Fergus	4,010	12	63.7	− 0.5	94	16	37	13	47	4.20	+ 1.50	1.45	0.0	8	17	11	3	e.	W. W. Watson.
Livingston	Park	4,488	11	68.6	+ 0.7	100	1	41	13	48	1.68	+ 0.52	0.48	0.0	8	18	6	7	sw.	Lewis Terwilliger.
Lodge Pole Creek	Sweetgrass	5,700	.....	.....	.....	.....	.....	.....	.....	.....	1.85	.....	0.70	0.0	5	18	10	3	.....	F. G. White.
Lone Tree	Chouteau	.....	5	66.2	.....	95	16	45	14	40	8.75	.....	2.70	0.0	9	21	7	3	w.	E. Wilson.
Lost Horse Creek	Meagher	5,800	.....	.....	.....	.....	.....	.....	.....	.....	2.27	.....	0.47	0.0	15	10	13	8	w.	C. M. Mason.
Lubec	Teton	5,046	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Malta	Valley	2,240	3	68.8	.....	95	16†	43	15	41	1.25	.....	0.28	0.0	9	18	10	3	w.	U. S. Reclamation Service
Meadow Creek	Madison	6,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. E. Parent.
Melstone	Fergus	2,903	.....	.....	.....	.....	.....	.....	.....	.....	2.35	.....	0.80	0.0	8	.....	.....	.....	.....	E. J. Parkinson.
Mildred	Custer	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.67	.....	0.62	0.0	5	19	11	1	se.	Leon B. Clark.
Miles City	.....do	2,371	15	74.6	+ 1.6	105	1	49	15	40	2.63	.....	0.93	0.0	9	17	13	1	ne.	U. S. Weather Bureau.
Mill Creek	Park	5,500	.....	.....	.....	.....	.....	.....	.....	.....	0.75	.....	0.25	0.0	5	19	9	3	sw.	W. H. Edick.
Moore	Fergus	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.06	.....	0.88	0.0	7	18	7	6	w.	Clyde Grove.
Mudd Creek	Deer Lodge	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.67	.....	1.44	0.0	10	12	13	6	w.	Emery Mudd.
Norris	Madison	4,845	3	67.6	.....	96	1	35	12	45	2.34	.....	0.60	0.0	8	12	3	16	s.	Madison River Power Co
Nye	Sweetgrass	.....	1	59.0	.....	88	1	24	12	44	2.19	.....	0.53	0.0	12	18	8	5	sw.	F. L. Bryant.
Olsen Creek	Jefferson	6,345	.....	.....	.....	.....	.....	.....	.....	.....	3.03	.....	0.68	0.0	10	20	6	5	w.	Robt. Olsen.
Pipestone Pass	Jefferson	7,000	.....	.....	.....	.....	.....	.....	.....	.....	3.39	.....	1.15	0.0	13	12	17	2	w.	Mrs. Theola Kiermeyer.
Poplar	Valley	2,020	25	70.3	+ 0.6	97	1†	41	15	39	2.08	+ 0.46	0.68	0.0	5	22	5	4	e.	H. M. Cosier.
Raymond	Teton	4,260	2	62.7[a]	.....	96[a]	5	36[a]	14†	50[a]	6.15	.....	2.00	0.0	8	19	5	7	w.	W. H. Campbell.
Rebers Ranch	Carbon	6,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. A. Reber.
Red Lodge	.....do	5,548	9	62.2	.....	91	18	38	14	39	1.08	− 0.33	0.40	0.0	8	19	10	2	se.	I. A. Draper.
Reese Creek	Gallatin	5,000	.....	.....	.....	.....	.....	.....	.....	.....	2.25	.....	0.63	0.0	9	19	3	9	.....	Henry Cramer.
Renova	Jefferson	4,383	11	64.1	− 1.7	94	1	39	14	48	3.16	+ 2.06	0.85	0.0	13	16	9	6	sw.	F. B. Elmer.
Rimini	Lewis & Clark	7,900	.....	.....	.....	.....	.....	.....	.....	.....	3.60	.....	1.32	0.0	10	18	10	3	w.	Milo Brooks.
Ryegate	Yellowstone	3,640	.....	.....	.....	.....	.....	.....	.....	.....	2.01	.....	1.12	0.0	7	.....	.....	.....	w.	H. W. Scherfenberg.
Sedan	Gallatin	3,155	2	60.8	.....	90	1	36	14	43	2.44	.....	0.48	0.0	12	16	14	1	nw.	Jas. Woosley.
Springbrook	Dawson	.....	8	68.6	.....	99	1	41	15	42	3.38	.....	1.21	0.0	6	17	10	4	w.	Mrs. H. L. Miller.
Stearns	Lewis & Clark	4,500	.....	.....	.....	.....	.....	.....	.....	.....	5.14	.....	2.45	0.0	7	15	12	4	w.	Jas. W. Hargrove.
Tokna	Dawson	2,050	4	70.0	.....	100	25	40	16	47	1.69	.....	0.55	0.0	6	17	12	2	.....	U. S. Reclamation Service
Toston	Broadwater	3,950	8	64.2	.....	93	16	38	14	46	2.75	.....	1.10	0.0	8	.....	.....	.....	.....	W. H. Little.
Townsend	.....do	3,790	.....	.....	.....	.....	.....	.....	.....	.....	4.15	.....	1.20	0.0	7	.....	.....	.....	.....	River Observer.
Trail Creek	Park	6,000	.....	.....	.....	.....	.....	.....	.....	.....	1.65	.....	0.50	0.0	11	16	10	5	w.	Andrew Weidenbauer.
Utica	Fergus	5,000	16	62.6	− 2.0	91	1	40	28	38	4.97	+ 2.74	1.24	0.0	10	22	4	5	w.	P. W. Korell.
Valentine	.....do	.....	3	67.5	.....	97	16	39	14	46	2.35	.....	0.83	0.0	11	22	2	7	w.	B. M. Bean.
Virginia City	Madison	5,880	21	64.0	− 1.5	94	1	37	12	38	1.81	+ 0.45	0.23	0.0	14	12	14	5	s.	Francis Mailand.
Wall Rock Mountain	Broadwater	5,600	.....	.....	.....	.....	.....	.....	.....	.....	2.71	.....	0.62	0.0	9	23	7	1	.....	D. L. Doig.
Warm Springs Creek	Madison	7,500	1	52.0	.....	72	25	34	12†	30	2.57	.....	0.55	0.0	16	9	10	12	sw.	M. D. Lytle.
West Rosebud Creek	Carbon	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.32	.....	0.33	0.0	11	14	14	3	.....	C. P. Whitten.
Willow Creek	Park	9,000	.....	.....	.....	.....	.....	.....	.....	.....	1.73	.....	0.70	0.0	6	13	18	0	w.	John Topp.
Wolf Creek	Lewis & Clark	4,000	6	66.4	.....	94	16	40	14	47	2.26	.....	0.86	0.0	6	21	4	6	w.	A. W. Varharen.
Wolf Point	Valley	1,995	.....	.....	.....	.....	.....	.....	.....	.....	2.22	.....	0.48	0.0	8	.....	.....	.....	.....	River Observer.
Woodville	Jefferson	6,376	.....	.....	.....	.....	.....	.....	.....	.....	2.84	.....	0.83	0.0	14	13	9	9	sw.	Anna Kinman.
North Dakota.																				
Aplin	Oliver	.....	2	67.1[b]	.....	95[a]	18	43[b]	14	41[b]	1.08	.....	0.32	0.0	6	16	12	3	n.	J. B. Hazelbarger.
Beach	Billings	2,759	2	66.6	.....	92	18	43	15	39	2.36	.....	0.88	0.0	9	12	15	4	se.	D. J. Steiner.
Berlin	La Moure	1,470	16	66.7	+ 0.1	96	19	45	16	38	5.52	+ 2.45	2.40	0.0	11	17	6	8	nw.	N. S. French.
Berthold Agency	McLean	2,082	12	68.4	− 1.0	95	18	46	23	42	1.18	− 0.90	0.48	0.0	9	21	6	4	e.	C. L. Hall.
Bismarck	Burleigh	1,674	34	69.5	− 0.7	94	18	48	16	35	2.41	+ 0.27	0.64	0.0	11	14	10	7	nw.	U. S. Weather Bureau.
Brocero	Mercer	.....	1	66.1	.....	93	18	42	13	34	0.41	.....	0.30	0.0	5	7	20	4	se.	E. M. Walker.
Buford	Williams	1,944	3	68.4	.....	92	25	48	29	36	1.68	.....	0.63	0.0	5	22	5	4	se.	G. O. Sanford.
Coal Harbor	McLean	1,901	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. H. Childs.
Dickinson	Stark	2,453	16	67.0	− 1.0	93	19	46	13†	37	1.89	− 0.29	0.67	0.0	12	12	13	6	nw.	L. R. Waldron.
Edgeley	Lamoure	1,468	7	67.8	.....	98	19	47	3†	36	3.04	.....	1.86	0.0	9	12	4	15	se.	O. A. Thompson.
Ellendale	Dickey	1,449	16	69.2	− 1.5	99	19	47	16	35	2.68	+ 0.20	0.68	0.0	12	14	3	14	nw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1909. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
North Dakota—Cont'd.																				
Epping	Williams		1								1.44		0.29	0.0	10	9	15	7	se.	J. C. Wilson..
Fullerton	Dickey	1,439	10	67.8	+ 0.3	97	19	47	16	34	5.22	+ 2.10	3.49	0.0	8	14	12	5	se.	F. O. Alin.
Haley	Bowman		1	67.5		97	18	42	15	45	1.93		0.45	0.0	12				nw.	Myra Hart.
Hettinger	Adams	2,253	2																	F. E. Ellickson.
Howard	Williams	2,275	2	67.0		94	18	45	15†	37	0.74		0.33	0.0	6	8	16	7	se.	C. B. Amsbaugh.
Jamestown	Stutsman	1,390	21	66.8	− 1.8	96	19	42	9	38	5.21	+ 2.61	1.43	0.0	12	6	14	11	se.	L. B. Baldwin.
Kulu	Lamoure	1,966	4																	J. F. Brenckle.
Lamoine	Kidder		1	66.5		90	20	44	10	38	3.77		1.28	0.0	6	9	16	6	se.	E. V. Virgin.
Lamoure	Lamoure	1,307	2								3.66		1.57	0.0	11					A. H. Ormsby.
Manfred	Wells			67.8		92	20	45	3	37	2.78		0.87	0.0	6	13	16	2	se.	
Marmarth	Bowman		1								2.20		0.85	0.0	12	15	9	7	s.	S. P. Crane.
Marstonmoor	Stutsman		1								5.91		2.50	0.0	4	10	16	5	se.	H. H. McCumber.
Medina	do	1,796	4	65.8		94	19	40	5	37	3.10		1.60	0.0	3	4	14	13	se.	M. Dwyer.
Medora	Billings	2,225	12	60.7	− 9.6	96	30†	34	4†	52	2.98	+ 0.96	1.90	0.0	6	15	9	7	e.	J. W. Hesser.
Melville	Foster	1,590	11	67.5[d]	+ 0.6	90[d]	20	46[d]	12	37[d]	2.66	− 0.20	1.03	0.0	6					J. P. Kidder.
Mott	Hettinger		2	67.7		94	18	42	13	38	4.33		2.26	0.0	10	14	6	11	se.	O. H. Opland.
Napoleon	Logan	1,955	17	66.8	− 1.6	97	19	40	16	42	2.62	+ 0.10	1.15	0.0	8	20	1	10	se.	C. J. Hoof.
New England	Hettinger	2,400	13	63.0	− 4.4	92	19	44	10†	42	2.78	+ 1.03	1.25	0.0	8	14	1	16	se.	W. C. McKenzie.
New Salem	Morton	2,163	2	68.4		95	18	46	14†	34	3.48		1.90	0.0	9	16	9	6	se.	J. Christiansen.
Orange	Adams		2	66.4		92	17	40	8	44	2.51		0.78	0.0	10	15	10	5	se.	J. E. Goforth.
Palermo	Ward	2,200	5																	T. A. McCann.
Steele	Kidder	1,857	13	67.4	− 1.1	95	19	45	3†	38	4.10	+ 1.39	1.45	0.0	9				nw.	B. C. Smith.
Swartwood	Bowman		1								2.07		0.37	0.0	15	19	5	7	se.	W. F. Adams.
Washburn	Mc Lean	1,731	5	67.8[a]		93[a]	17	46[a]	16	37[a]	1.93		0.66	0.0	8	10	15	6	e.	W. R. Peterson.
Williston	Williams	1,875	29	67.7	− 1.7	93	18	48	10	36	1.57	− 0.46	0.70	0.0	10	13	7	11	w.	U. S. Weather Bureau.
Wishek	McIntosh	2,010	4	67.6		93	19	45	16	33	6.14		2.25	0.0	10	17	10	4	se.	H. E. Timms.
South Dakota.																				
Aberdeen	Brown	1,300	20	69.2	− 2.0	98	19	49	16	37	4.51	+ 1.45	1.30	0.0	13	19	2	10	ne.	D. G. Gallett.
Academy	Charles Mix		21	74.3	+ 0.7	104	2	49	23	39	2.20	− 1.31	0.93	0.0	5	19	7	5	se.	I. T. Lothrop.
Alexandria	Hanson	1,352	21	72.3	− 0.4	97	18	52	23	32	1.90	− 1.46	0.72	0.0	4	20	5	6	se.	W. S. Hill.
Andover	Day	1,476				92	31							0.0	7	14	12	5	se.	E. L. Stone.
Ardmore	Fall River	3,557	1								2.09		0.90	0.0	8	23	3	5		C. G. Hurlbut.
Armour	Douglas	1,521	16	73.2	+ 0.1	102	2	51	14	47	2.77	− 0.60	1.09	0.0	11	24	3	4	sw.	J. S. Bean.
Ashcroft	Harding	3,192	18	69.2	− 0.4	96[a]	1†	42	13	40[a]	3.92	+ 2.22	1.11	0.0	7	23	7	1	ne.	Thos. AshCroft.
Belle Fourche	Butte	3,000	2	70.2		100	18	43	15	40	1.44		0.41	0.0	12	16	5	10	ne.	W. H. McGinley.
Bowdle	Edmunds	1,995	15	68.8	− 1.6	94	20	45	3	37	4.26	+ 1.64	1.20	0.0	10	18	6	7	nw.	C. T. Smithers.
Brookings	Brookings	1,636	22	69.6	+ 0.2	92	20	46	24	38	2.44	+ 0.02	1.62	0.0	7	13	10	8	s.	Prof. C. Willis.
Burke	Gregory		2	71.8		99[a]	2	51[a]	23	34[a]	3.45		1.80	0.0	4	18	6	7		James Connell.
Canton	Lincoln	1,248	14	71.4	− 0.5	100	2	51	24	35	3.69	− 0.31	1.55	0.0	9	18	7	6	se.	John .H Holsey.
Cascade Springs	Fall River	3,422	2	72.6		100	18	43	22	43	1.54		0.87	0.0	3	25	5	1	se.	Fred Norenberg.
Castlewood	Hamlin	1,685	4	68.0	+ 1.3	91	20	43	23	38	3.42	+ 1.22	2.45	0.0	9	15	1	15	se.	M. N. Bradley
Centerville	Turner	1,229	5	71.4		95	2	50	23	31	5.16	+ 0.44	1.35	0.0	14	11	10	10	se.	Frank Williams.
Chamberlain	Brule	1,363	12	75.6	+ 1.1	104	2	49	4	39	1.40	− 1.28	0.41	0.0	5	12	14	5	se.	G. A. Fry.
Clark	Clark	1,779	16	67.5	− 2.3	90	20	47	16	36	5.15	+ 2.52	2.02	0.0	13	12	12	7	sw.	O. H. La Craft.
Clear Lake	Deuel	1,800	7	68.0	+ 0.4	90	17†	50	6†	40	2.37	− 1.36	1.71	0.0	3	19	7	5	sw.	L. F. Hanly.
Clifton	Sully																			H. F. Chamberlain.
Cottonwood	Stanley		1	74.1		99	18	48	13†	40	4.18		2.18	0.0	5	20	8	3	se.	S. W. Sussex.
Daviston	Perkins		1	67.2		97	18	42	15	42	2.63		0.60	0.0	11	17	8	6	nw.	G. G. Davis.
Deadwood	Lawrence	4,535	1	66.0		96	18	40	14†	37	4.70		1.55	0.0	10	17	9	5		R. E. Grimshaw.
De Smet	Kingsbury	1,726	18	70.3	+ 0.1	93[d]	28	47[d]	23	38[d]	1.80	− 0.78	1.15	0.0	3	19	6	6	se.	J. O. Purinton.
Dowling	Stanley	2,250	1	72.8		102	18	48	22	36	0.65		0.45	0.0	4	24	6	1	se.	M. P. Dowling.
Dumont	Lawrence	6,195	1								3.57		1.71	0.0	9	16	12	3	sw.	A. B. Wood.
Elk Point	Union	1,127	11	74.6	+ 0.4	101[b]	2	54[b]	23	37[b]	7.13	+ 4.22	2.08	0.0	6				ne.	M. Hoffman, jr.
Ellingson	Perkins			68.3		102	18†	41	15	39	2.46		0.44	0.0	11					R. E. Sheriff.
Englewood	Lawrence	5,723	1								3.79		1.40	0.0	8	19	8	4	sw.	E. E. White.
Eureka	McPherson	1,884	1	69.2		96	19	48	15	33	2.16		0.59	0.0	11	20	5	6	se.	W. D. Griggs.
Fairfax	Gregory		7	74.7	+ 2.2	98	2†	50[c]	24	36[c]	4.85	+ 1.17	1.95	0.0	6	19	8	4	se.	J. T. Murphy.
Farmingdale	Pennington	3,000	14								1.59	− 0.73	0.50	0.0	5	21	8	2	se.	A. E. Nicholls.
Faulkton	Faulk	1,595	16	69.6	− 0.9	96	19	54	12†	32	6.19	+ 3.61	2.80	0.0	11	21	5	5	se.	Miss Belle Talcott.
Flandreau	Moody	1,565	20	68.2	− 1.4	92	20	49	32	33	2.55	− 0.43	1.27	0.0	8	16	8	7	s.	G. A. Perley.
Forestburg	Sanborn	1,231	19	71.8	+ 0.3	94	2†	50	23	36	1.83	− 0.94	0.65	0.0	5	7	15	9	se.	M. K. Judy.
Fort Meade	Meade	3,624	29	73.6	+ 1.9	98	18	50	13†	34	3.19	+ 0.93	1.00	0.0	10	16	12	3	s.	Post Surgeon.
Frederick	Brown	1,371	3	68.2		98[b]	19	45[b]	23	45[b]	4.51		2.82	0.0	8				s.	J. E. Jeffers.
Gannvalley	Buffalo		12	73.6	+ 0.2	105	2	48	23	40	2.02	− 1.81	1.10	0.0	6	13	14	4	nw.	V. P. Drips.
Greenmount	Lawrence	6,430	1								4.99		1.24	0.0	10	18	6	7	sw.	John H. Leitel.
Greenwood	Charles Mix		15	74.2	− 0.4	103	2	51	24	36	5.31	+ 1.85	3.24	0.0	5	20	4	7	se.	T. C. Williamson.
Hardy Ranger Station	Lawrence	6,600									2.62		1.20	0.0	5	28	2	1	sw.	Mrs. Mary E. Seals
Hermosa	Custer	3,349	4	70.4	+ 1.0	96	17	47	12	40	3.11	+ 0.06	1.28	0.0	7	21	7	3		S. M. Booth.
Highmore	Hyde	1,890	16	71.6	− 1.5	102	19	40	12	38	1.81	− 0.86	0.40	0.0	9	14	11	6	se.	P. H. Moore.
Hill City	Pennington	5,061	1								2.42		0.58	0.0	9	22	6	3	e.	Geo. A. Karr.
Howard	Miner	1,564	18	69.4	− 0.6	95[a]	2	48[a]	15†	36[a]	4.08	+ 1.02	1.37	0.0	8	13	12	6	se.	J. J. Cox.
Howell	Hand		8	70.2	+ 0.2	98	20	46	23	39	5.62	+ 3.56	1.71	0.0	12	18	9	4	se.	M. A. Shuster, jr.
Huron	Beadle	1,306	29	70.4	− 1.1	95	20	50	23	36	2.42	− 0.52	0.83	0.0	13	17	9	5	se.	U. S. Weather Bureau.
Ipswich	Edmunds	1,530	12	68.6	− 2.1	99	19	44	24	45	2.42	+ 0.01	0.85	0.0	7	23	4	4	nw.	J. B. Taylor.
Kadoka	Stanley	2,467	1	73.8		101	18	50[a]	22	37[a]	1.91		1.10	0.0	5	6	20	5		Rev. D. S. Brown
Kennebec	Lyman	1,689	14	75.1	+ 2.6	104[a]	20	46[c]	23	44[c]	0.41	− 1.78	0.26	0.0	3	22	4	5	se.	R. C. Van Horn.
Kidder	Marshall	1,295	6	68.8	+ 3.4	93	19	50	13	38	2.28	− 0.78	0.80	0.0	4	25	2	4	se.	H. C. Schussler.
Kimball	Brule	1,788	20	73.8	+ 1.1	100	2	50	27	39	2.54	− 0.17	0.59	0.0	9	20	6	5	se.	G. D. Rose.
La Delle	Spink	1,400	13	70.7	− 0.8	95	19	48	23	35	4.74	+ 1.25	2.20	0.0	6	14	10	7	se.	E. L. Ebbert.
Lead	Lawrence	5,200	1	67.0		92	18	43	22	39	4.01		1.22	0.0	12	13	15	3	se.	E. F. Irwin.
Lemmon	Perkins	2,345	1	67.2		96[c]	18	47[c]	14†	40[c]	2.99		0.70	0.0	10	26	0	5	se.	W. E. Lyman.
Leslie	Stanley	1,225																		C. E. Robinson.
Marion	Turner	1,447	9	71.2	− 0.7	95	29	52	23	30	2.71	− 1.00	0.77	0.0	8	12	11	8	se.	M. H. Dains.
Mellette	Spink	1,300	17	69.6	− 2.0	96	19	48	23	39	4.43	+ 1.67	1.84	0.0	10	15	10	6	se.	Frank A. Howe.
Menno	Hutchinson	1,325	14	70.8	− 1.8	94	28	51	23	33	3.26	− 0.58	0.92	0.0	7	16	7	8	se.	J. H. Swanton.
Mitchell	Davison	1,312	14	71.6	0.0	99	2	49	23	37	2.28	− 1.10	0.73	0.0	7	21	6	4	se.	C. W. Downey.
Murdo	Lyman	2,300	2	74.2		102	19	50	8†	41	0.99		0.65	0.0	3	18	9	4	se.	L. C. Bode.
Orman	Butte	2,920	4	71.8	+ 1.1	101	18	49	14†	42	1.33	− 1.10	0.52	0.0	8	17	6	8	e.	W. H. Rader.
Ottumwa	Stanley		2	72.6		104	18	46[c]	22	45[c]	0.69		0.63	0.0	2	20	7	4	nw.	H. Hallenbeck.
Pierre	Hughes	1,572	19	75.0	− 0.2	102	19	55	15	33	0.73	− 1.62	0.26	0.0	6	17	10	4	e.	U. S. Weather Bureau.
Plankinton	Aurora	1,528	19								2.04	− 0.85	1.01	0.0	7	11	15	5	se.	W. G. Andrews.
Pollock	Campbell		3								3.60		2.00	0.0	4					J. H. Jones.
Rapid City	Pennington	3,251	22	70.9	+ 0.7	96	18	50	12	35	1.80	− 0.75	0.52	0.0	9	20	8	3	se.	U. S. Weather Bureau.
Redfield	Spink	1,295	12	70.0	− 0.5	98	19	49	9	35	4.82	+ 2.03	2.40	0.0	11	23	1	7	se.	A. S. Hall.
Rosebud	Meyer	2,600	15	72.0	− 1.8	98[d]	18	45[c]	16	42[i]	2.04	− 0.73	1.00	0.0	5	18	10	3	se.	W. M. Ege.
Roslyn	Day		4	67.7	+ 0.7	91	17	49	23	36	2.88	+ 0.75	0.93	0.0	8	19	8	4	se.	O. O. Floren.
Running Water	Bon Homme										2.97		1.50	0.0	4					W. N. Isham.

TABLE 1.—*Climatological data for July, 1909. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
South Dakota—Cont'd.																				
Savoy	Lawrence	4,500									3.39		0.79	0.0	10	10	20	1		W. J. Hall.
Selby	Walworth		1	70.2		94	20	50	15	32	2.78		0.93	0.0	8	22	4	5	se.	Miss Gertrude Hall.
Sioux Falls	Minnehaha	1,400	20	71.2	− 0.5	97	2	50	5	33	4.78	+ 1.67	2.60	0.0	7	13	9	9	nw.	J. H. Bechtold.
Spearfish	Lawrence	3,647																		O. A. Martin.
Stephan	Hyde	1,840	5	71.8	+ 2.2	101	19†	47	23	43	1.95	− 1.23	0.88	0.0	7	16	5	10	se.	Rev. A. Mattingly.
Tama	Meade		1	72.7		103	18	43	15	42	2.44		0.90	0.0	8	17	5	9	se.	J. J. Daily.
Vale	Butte	2,765	2	71.8		103	1	45	13	43	2.16		0.99	0.0	6	21	7	3	e.	G. W. Shaw.
Van Metre	Lyman																			Thos. H. Hill.
Vermillion	Clay	1,222	8	73.5	− 0.8	97	2	53	23	30	7.15	+ 2.44	1.84	0.0	12	18	5	8	sw.	Prof. E. C. Perisho.
Water's Ranch	Lawrence	4,000	1								2.02		0.79	0.0	9					Geo. Waters.
Watertown	Codington	1,735	14	69.8	+ 3.0	92	17†	48	16	40	3.38	+ 0.19	1.50	0.0	5	17	6	8	e.	Robert Q. Wood.
Wentworth	Lake		19	69.6	− 0.8	94[a]	2	50[a]	23	30[a]	2.49	− 0.43	1.51	0.0	4	22	3	6	s.	R. C. Zimmerman.
Wessington Springs	Jerauld	1,410	14	71.3	− 1.0	98	19	52	31†	28	2.06	− 0.84	0.55	0.0	10	10	17	4	se.	F. N. Dunham.
White Lake	Aurora	1,646												0.0		16	9	6	e.	Mrs. G. A. Rogers.
Yankton	Yankton	1,234	37	72.2	− 2.4	97	2	54	24	30	5.24	+ 1.72	1.80	0.0	11	10	12	9	ne.	U.S. Weather Bureau.
Minnesota.																				
Pipestone	Pipestone	1,710	10	67.6	− 1.7	91	2	49	4	35	2.83	− 0.55	0.98	0.0	8	11	14	6	se.	W. S. Campbell.
Colorado.																				
Akron	Washington	4,650	7								1.98	− 1.32	1.38	0.0	7					Ira M. Barnhouse.
Alma	Park	10,238	12								4.30	+ 1.88	0.82	0.0	18	6	12	13		W. H. Powless.
Arriba (near)	Lincoln	5,239	3	70.2		92	20	50	22	35	3.08		0.92	0.0	6	16	15	0	se.	C. S. Graves.
Auldhurst	Teller	8,500																		Mrs. Alice A. Auld.
Barker	Boulder	8,000	2								3.30		0.87	0.0	12	17	10	4	w.	E'n Colo. P. Co.
Boreas	Park	11,489									3.34		0.66	0.0	13	3	20	8	nw.	Frank Soper.
Boulder	Boulder	5,347	13	71.2	+ 1.3	91	11†	53	13	33	3.18	+ 1.33	0.79	0.0	9	21	10	0	w.	S. A. Giffin.
Burlington	Kit Carson	4,166	5	73.5	+ 4.4	95	20	56	23	32	2.64	− 0.46	1.10	0.0	9	21	6	4	se.	C. Creglow.
Cassels	Park	8,445																		Harriet M. Cassell.
Castle Rock	Douglas	6,220	18	67.2	− 0.5	90	17	44	12	41	1.69	− 0.96	0.60	0.0	8					Chas. Hy. Ellis.
Cheesman	Jefferson	6,890	6	68.6	+ 3.6	90	11†	47	4	38	1.57	− 0.70	0.22	0.0	12	18	13	0	sw.	C. L. Adams.
Cheyenne Wells	Cheyenne	4,279	16	74.6	+ 1.2	95	23	53	26	39	4.72	+ 1.66	1.14	0.0	8	28	3	0	s.	J. B. Robertson.
Como	Park	9,785	10								2.72	− 0.90	1.09	T.	10	24	6	1	w.	Edwin Pike.
Cope	Washington		11	72.6	0.0	96	27	50[a]	5	38	4.25	+ 0.87	1.49	0.0	9	14	16	1	s.	A. A Williams.
Corona	Grand	11,660	2	50.0		64	7†	32	12	28	1.72		0.48	0.0	8				w.	U. S. Weather Bureau.
Denver	Denver	5,272	37	73.0	+ 1.2	95	18	56	28	33	4.17	+ 2.57	1.53	0.0	12	15	16	0	sw.	U. S. Weather Bureau.
Edgewater	Jefferson		1	69.2		93	18	50	28†	42	3.65		0.92	0.0	13	27	3	1		Dr. J. B. Fish.
Estes Park Hatchery	Larimer	8,000									1.76		0.50	0.0	10	9	7	15	w.	Gaylord H. Thompson.
Fort Collins	do	4,985	20	70.4	+ 1.9	94	18	48	11†	43	1.98	+ 0.05	0.90	0.0	10	13	17	1	nw.	Colo. Agri. College.
Fort Morgan	Morgan	4,319	14	74.6[a]	+ 1.8	98[a]	11†	51[a]	8†	42[a]	1.04	− 1.14	0.35	0.0	8	16	14	0	se.	Della M. Scott.
Frances	Boulder	9,300	4	63.0		84	17	41	12	37	1.98		0.43	0.0	12	11	20	0	w.	D. A. Barry
Fry's Ranch	Larimer	7,500		61.2		84	2†	36	13	45	0.98		0.27	0.0	11	23	8	0	w.	Norman W. Fry.
Georgetown	Clear Creek	8,556	8								2.57	+ 0.67	0.64	0.0	12	10	14	7		H. L. Corbett.
Greeley	Weld	4,649	18	73.6	+ 3.0	98	19	52	13	44	5.14	+ 3.31	2.60	0.0	9	22	9	0	e.	Nelson Reynolds.
Hartsel	Park	7,679									1.12		0.60	0.0	9	18	9	4		Emily Kleinknecht.
Hawthorne	Boulder	6,000	1								1.16		0.36	0.0	8	27	4	0		B. L.Chesebro.
Holyoke (near)	Phillips	3,745	13																	E. E. T. Hazen.
Idaho Springs	Clear Creek	7,534	9	64.4	+ 1.9	86	17†	45	11	38	2.20	− 0.49	0.46	0.0	11				e.	J. J. Willis.
Keota	Weld	4,966																		
Kossler	Boulder	7,720	2																	E'n. Colo. P. Co.
La Port	Larimer	5,053	18								1.24	+ 0.65	0.62	0.0	4					P. A. Taft.
Le Roy (near)	Logan	4,380	20	72.5	+ 1.2	98	31	47	22	40	1.05	− 1.10	0.41	0.0	7	15	14	2	se.	Chas. Green.
Longmont	Boulder	4,989	7	71.6	+ 1.4	96	17	48	28	43	0.73	− 0.79	0.18	0.0	9	19	12	0		Geo. W. Johnson.
Long's Peak (near)	Larimer	8,600	14	58.4	+ 4.4	81	17†	36	26	41	3.99	+ 1.31	2.40	0.0	11	14	13	4	w.	Enos A. Mills.
Morsing	do	7,775	19																	J. D. Stead.
Platte Canyon	Jefferson	5,492	10								1.94	+ 0.05	0.52	0.0	9					Norman Steele.
St. Cloud	Larimer	7,750																		Mrs. Phebe A. Campton.
Sedgwick	Sedgwick	3,573	1	75.0		98	20	46	22	45	1.51		0.76	0.0	4	20	9	2	se.	Dr. Edwin Lewis.
Sill Mine	Clear Creek	11,500									4.69		0.95	0.0	15	15	9	7	w.	Chas. F. Deininger.
Spicer (near)	Larimer	8,700																		Frank W. Murphy.
Waterdale	do	5,206	14	70.2	+ 3.5	95	18	49	15	44	2.07	− 0.26	0.68	0.0	8					P. H. Boothroyd.
Westlake	Boulder		1								3.41		1.94	0.0	8	17	12	2		G. E. Richardson.
Wray	Yuma	3,512	15	75.2	+ 1.6	97	20†	50	13†	40	1.75	− 0.82	1.03	0.0	8	16	14	1	se.	J. C. Tuomey.
Yuma	do	4,138	18								5.72	+ 3.02	2.42	0.0	7	15	10	6	se.	Geo. W. Custer.
Nebraska.																				
Ainsworth	Brown	2,521	4	78.3		98	3	50	15†	32	4.07		1.72	0.0	8	3	24	4	sw.	John M. Cotton.
Albion	Boone	1,747																		F. A. Pittenger.
Alliance	Boxbutte	3,968	14	75.2	+ 3.4	98	2†	47	13	41	0.51	− 2.16	0.40	0.0	5	19	12	0	e.	Agent, C. B. & Q. R. R.
Alma	Harlan	1,939	12	76.5	+ 1.1	96	3	49	23	38	3.56	+ 0.11	1.69	0.0	11	17	11	3	s.	W. A. Sharpnack.
Anoka	Boyd		3	72.1		101	2	43	23	45	3.79		1.80	0.0	5	14	12	5	nw.	W. Whitla.
Arcadia	Valley	2,186									6.22	+ 0.83	1.79	0.0	11	16	8	7	se.	J. L. Owen.
Ashland	Saunders	1,100	19	76.2	0.0	99	21	54	24	35	3.33	− 1.69	0.96	0.0	13	18	7	6	s.	A. S. von Mansfelde.
Ashton	Sherman	2,061									6.82	+ 2.59	2.09	0.0	8	18	6	7	s.	Fred Rein.
Atkinson	Holt	2,108	4	72.3		98	2	47	23	37	2.35		0.90	0.0	5	19	6	6	se.	C. J. Wilson.
Auburn	Nemaha	1,051	17	75.6	0.0	96	21	52	24	30	6.35	+ 1.34	3.52	0.0	10	13	9	9	se.	J. R. Huffman.
Aurora	Hamilton	1,792																		Agent, C. B. & Q. R. R.
Beatrice	Gage	1,235	18	77.2	+ 1.0	97	3	53	23	32	8.17	+ 3.65	5.15	0.0	12	24	2	5	se.	W. S. Waxham.
Beaver City	Furnas	2,147	18	78.2	+ 2.3	104	9	52	23	31	2.59	− 1.29	0.93	0.0	7	14	13	4	se.	T. M. Davis.
Bellevue	Sarpy	1,210	5	75.2	+ 1.8	93	2†	54	23	26	3.12	− 1.38	1.10	0.0	8	18	4	9	ne.	Bellevue College.
Bertrand	Phelps	2,515									1.56		0.92	0.0	5					W. F. Dobbin.
Blair	Washington	1,122	12	74.2	− 2.7	94	2	53	24	33	7.97	+ 3.26	4.33	0.0	9	19	5	7	se.	H. H. Hahn.
Bloomfield	Knox										2.82		1.00	0.0	7	16	7	8	s.	J. M. Barnard.
Bluehill	Webster	1,967									6.15	+ 2.13	1.80	0.0	9	16	4	11	s.	Agent, C. B. & Q. R. R.
Bradshaw	York	1,715									7.95	+ 2.66	3.82	0.0	10	10	17	4		E. C. Roggy.
Bridgeport	Cheyenne	3,800	13	71.4	− 0.2	93	20	46	22	42	2.62	+ 0.25	1.20	0.0	5	19	12	0	se.	R. H. Willis.
Brokenbow	Custer	2,477	15	75.6	+ 0.3	98	2†	46	23	38	6.93	+ 2.51	2.41	0.0	12	20	10	1		Agent, C. B. & Q. R. R.
Burchard	Pawnee	1,377									9.02	+ 3.94	2.80	0.0	10	11	10	10	ne.	Do.
Burge	Cherry	2,674	1	74.8		102	20	44	15†	44	1.11		0.60	0.0	3	18	10	3	se.	H. A. Davis.
Burwell	Garfield	2,180									1.68	− 1.69	0.65	0.0	4	15	9	7	nw.	Agent, C. B. & Q. R. R.
Cairo	Hall	1,951									7.19		2.25	0.0	8					Elliott Harrison.
Callaway	Custer	2,555	17	74.2	+ 1.3	99	28	45	23	41	3.93	+ 0.91	1.70	0.0	6	20	6	5	s.	J. H. Evans.
Cambridge	Furnas	2,258	2	76.0		97	20	48	23	39	2.54		1.03	0.0	6	17	9	5	se.	Chas. Jensen.
Canton (near)	Sioux		1	69.8		97	20	37	22	53	1.35		1.15	0.0	4				se.	A. E. Hann.
Columbus	Platte	1,442	15	73.8	+ 0.6	97	2	51	23†	35	7.93	+ 3.98	2.24	0.0	13	13	1	17	se.	C. C. Gray.
Cozad	Dawson	2,496									3.28		1.31	0.0	5	8	22	1	s.	A. A. Luttin.
Creighton	Knox	1,600	12	72.8	− 0.7	99	2	46	23	34	2.44	− 1.25	0.95	0.0	10	17	4	10	se.	C. H. Blood.
Crete	Saline	1,368						53	23		5.33	+ 0.68	3.47	0.0	10	12	11	8	se.	Doane College.
Culbertson	Hitchcock	2,565	7	80.6[a]	+ 5.2	100	4†	63	27	31	1.75	− 1.28	0.86	0.0	7	16	4	12	se.	J. H. Corrick.
Curtis	Frontier	2,553	14	77.6[d]	+ 2.2	102	4	47	24	41	1.68	− 1.50	1.46	0.0	3				e.	Dr. S. R. Rarce.

TABLE 1.—*Climatological data for July, 1909. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Cont'd.																			
David City	Butler	1,619	19	73.5	+ 0.4	92	2	54	23	26	6.00	+ 1.64	2.21	0.0	9	9	13	9	se.	S. Clingman.
Dawson	Richardson	945	13	76.7	− 0.3	96	2	55	24	32	8.34	+ 2.81	2.64	0.0	15	21	8	3	sw.	Mrs. E. I. Atkinson.
Dubois	Pawnee	1,074									8.30		1.47	0.0	15	20	7	4	ne.	O. M. Backus.
Duff	Rock										4.16	+ 0.20	1.12	0.0	8	15	12	4	s.	Dewitt Eager.
Edgar	Clay	1,722									7.64	+ 3.28	2.01	0.0	11	7	15	9		G. W. Ferree.
Ellis	Gage	1,430									7.26		4.00	0.0	8					D. J. Wood.
Elmcreek	Buffalo	2,268									5.76		1.75	0.0	6					E. L. Sutton.
Elsie	Perkins	3,382									1.46		0.47	0.0	6					J. L. Brittain.
Enderslake	Brown		1	75.4[a]		100	27	51	11	37	0.34		0.07	0.0	7	13	14	4	sw.	C. D. Langley.
Endicott	Jefferson	1,288									5.15		1.70	0.0	9	23	0	8	w.	Agent, C. B. & Q. R. R.
Ewing	Holt	1,888	3	73.8		106	2	48	2	40	4.51	+ 1.02	1.11	0.0	7					G. H. Benson.
Fairbury	Jefferson	1,316	14	77.9	+ 1.4	99	3	55	23†	33	5.82	+ 0.88	1.75	0.0	11	14	13	4	se.	W. F. Cramb.
Fairmont	Fillmore	1,641	15	74.3	− 0.3	94	2	51	25	31	6.20	+ 1.72	3.70	0.0	13	15	6	10	s.	Agent, C. B. & Q. R. R.
Fort Robinson	Dawes	3,764	27	71.8	+ 0.7	99	18	41	13	49	0.37	− 1.61	0.21	0.0	6	21	4	6	sw.	Post Surgeon.
Franklin	Franklin	1,820	15	76.6[b]	+ 1.2	101	3	50	13	39	4.64	+ 0.95	1.10	0.0	8				se.	D. T. Shoemaker.
Fremont	Dodge	1,203	27	74.6	− 0.1	95	2	52	24	35	7.14	+ 2.57	3.22	0.0	10	14	9	8	se.	Ernest Hahn.
Fullerton	Nance	1,629	3	73.9		96	2	52	23†	33	7.51	+ 2.50	1.32	0.0	10	19	6	6	s.	Dr. F. W. Johnson.
Geneva	Fillmore	1,633	17	75.5	0.0	96	2	52	23	33	7.05	+ 2.89	3.82	0.0	11	19	6	6	se.	F. M. Flory.
Genoa	Platte	1,584	34	75.8	+ 1.0	95	2	53	27	37	6.16	+ 2.03	1.48	0.0	12	14	10	7	se.	F. W. Parsons.
Gordan	Sheridan	3,550	1	70.6[a]		96	20†	38	22	50	0.77	− 1.56	0.34	0.0	6	13	18	0	s.	G. F. Williams.
Gosper	Gosper										2.48	− 1.05	1.60	0.0	6	13	15	3	se.	E. H. Stoll.
Gothenburg	Dawson	2,557	15	76.0	+ 1.9	99	28	49	23	36	3.73	+ 0.77	1.40	0.0	7	16	11	4	se.	W. J. Bartholomew.
Grand Island	Hall	1,860	17	74.6	− 0.5	98	2	54	22†	31	4.35	+ 0.33	1.48	0.0	10	13	4	14	s.	E. A. Barnes.
Grant	Perkins	3,405	5	73.6[c]	+ 2.7	100	20	46	15	45	2.63	− 1.02	0.86	0.0	5				se.	Cyrus Carver.
Greeley	Greeley	2,021	2	73.7		99	2	48	23	39	5.01	+ 1.18	1.58	0.0	11	10	13	8	se.	W. E. Morgan.
Guiderock	Webster	1,646									5.70	− 0.78	1.55	0.0	7	16	13	2	s.	J. S. Marsh.
Haigler	Dundy	3,258									2.54	− 0.37	0.50	0.0	4	14	9	8	se.	Agent, C. B. & Q. R. R.
Halsey §	Thomas	2,695	6	75.3	+ 3.3	99	28	48	23	40	3.53	− 0.41	1.50	0.0	8	20	8	3	se.	U. S. Forest Service.
Hartington	Cedar	1,309	18	71.3	− 1.4	95	2†	52	23†	32	4.69	+ 1.29	1.46	0.0	9	14	3	14	se.	D. E. Ewing.
Harvard	Clay	1,812	19	73.8	− 0.5	95	2	52	24	34	4.69	+ 0.71	1.86	0.0	13	13	10	8	ne.	Dr. J. T. Fleming.
Hastings	Adams	1,932	16	75.6	+ 0.4	96	2	54	23	39	3.39	− 0.42	0.80	0.0	8	16	12	3	se.	Agent, C. B. & Q. R. R.
Hayes Center	Hayes		5	75.6[a]	+ 2.7	99	20	51	22†	37	0.70	− 2.07	0.34	0.0	5	17	12	2	se.	C. A. Ready.
Hay Springs	Sheridan	3,821	22	70.7	+ 0.3	95	2	41	13	46	2.03	− 0.66	1.00	0.0	6	16	14	1	se.	A. Kadlecek.
Hebron	Thayer	1,458	24	76.0	0.0	97	3	53	23	29	4.70	+ 0.11	2.41	0.0	10					C. M. Easton.
Hendley	Furnas	2,231									2.51	− 1.13	1.32	0.0	6					F. A. Jones.
Holdrege	Phelps	2,324	15	76.8	+ 0.5	98	2	53	23	34	3.66	+ 0.34	1.30	0.0	7	17	2	12	se.	Agent, C. B. & Q. R. R.
Hooper §	Dodge	1,228	12	74.6	+ 0.2	96	2	52	23†	33	5.82	− 0.78	2.72	0.0	10	14	10	7	s.	T. W. Lyman.
Imperial	Chase	3,278	20	75.2	+ 0.9	99	20	50	15†	39	1.59	− 1.44	0.66	0.0	5	10	18	3	se.	Robt. Malcolm.
Kearney	Buffalo	2,146	17	75.8[a]	+ 0.1	96	2†	49	22	35	3.65	− 0.90	1.03	0.0	5				sw.	N. C. Dunlap.
Kimball	Kimball	4,697	21	71.6	+ 0.7	94	19	47	22	39	1.76	− 0.91	0.78	0.0	7	24	6	1	s.	F. J. Bellows.
Kirkwood	Rock		14	74.0[a]	+ 1.4	102	2	47	23	39	2.76	− 1.14	0.82	0.0	7				se.	Mrs. C. Arter.
Kowanda	Denell										0.59		0.23	0.0	5					Geo. W. Hulse.
Leavitt §	Dodge	1,228									6.15	+ 1.28	2.92	0.0	7	16	0	15	s.	W. T. Scilley.
Lexington	Dawson	2,385	20	74.6	+ 2.2	95	4†	48	23	35	3.61	+ 0.22	1.10	0.0	9	24	0	7	se.	Rob't Chadwick.
Lincoln	Lancaster	1,189	24	76.2	− 0.2	96	2	55	24	30	4.87	+ 1.04	2.89	0.0	8	12	10	9	s.	U. S. Weather Bureau.
Lodgepole	Cheyenne	3,820																		
Loup	Sherman	2,067																		
Loyal	Custer										3.30		0.90	0.0	5				s.	C. H. Cass.
Lynch	Boyd		17	73.9[a]	− 0.2	100	2†	48	23	38	4.04	− 0.02	2.20	0.0	5	22	2	7	sw.	S. W. Lightner.
McCook	Redwillow	2,506	9	74.8	− 2.9	99	31	44	23	39	1.19	− 2.14	0.68	0.0	3	25	6	0	se.	C. G. Coglizer.
McCool Junction	York	1,575									4.60	− 0.24	1.95	0.0	7					L. L. Slagle.
Madison	Madison	1,585	15	73.0	+ 0.1	93	2	52	23†	32	4.32	+ 0.85	1.33	0.0	8	15	6	10	sw.	Dr. F. A. Long.
Marquette	Hamilton	1,830									5.13	+ 0.85	2.28	0.0	11					John Ellis.
Mason City	Custer	2,257									4.66	+ 0.07	1.73	0.0	6					J. A. Amsberry.
Minden	Kearney	2,169	26	74.6	− 0.3	98	3	50	23†	34	4.00	− 0.68	1.37	0.0	12	12	10	9	se.	Joel Hull.
Mitchell	Scottsbluff		1	71.0		94	19	42	22	42	1.13		0.48	0.0	4	20	11	0	e.	U.S. Reclamation Service
Monroe	Platte	1,525									7.38	+ 3.09	1.47	0.0	16	14	8	9		Wm Webster.
Nebraska City	Otoe	941	27	75.9	0.0	94	21†	52	23†	31	4.01	+ 0.22	2.00	0.0	7	17	8	6	s.	Agent, C. B. & Q. R. R.
Norfolk	Madison	1,532	24	72.9[b]	− 0.5	99	2	48	23	36	4.71	+ 0.41	1.04	0.0	9				s.	Dr. P. H. Salter.
North Loup	Valley	1,961	21	73.8	0.0	99	2	48	23	38	6.20	+ 2.07	1.75	0.0	10	17	7	7	s.	W. G. Rood.
North Platte	Lincoln	2,841	35	74.2	+ 0.3	96	28	50	23	32	5.21	+ 2.53	2.49	0.0	11	21	7	3	se.	U. S. Weather Bureau.
Oakdale	Antelope	1,722	21	73.0	− 0.2	97	2	49	23	37	3.59	− 0.05	1.16	0.0	11	12	10	9	s.	G. S. Clingman.
Odell	Gage	1,278									7.37	+ 2.30	2.25	0.0	11	13	6	12		Agent, C. B. & Q. R. R.
Omaha	Douglas	1,103	39	75.6	− 0.9	94	2	58	23	24	4.40	+ 0.07	1.80	0.0	11	13	10	8	s.	U. S. Weather Bureau.
Ord	Valley	2,062									4.97	+ 1.07	1.10	0.0	10	20	2	9	s.	James Milford.
Orleans	Harlan	1,993									2.76		1.00	0.0	6					James McGeachin.
Osceola	Polk	1,644																		
Palmyra * §	Otoe	1,142	11	76.2	+ 1.1	96	17†	58	24		5.15	+ 0.56	4.52	0.0	8	20	6	5	se.	Thos. Coles.
Pawnee City	Pawnee	1,175	6	75.8	+ 1.7	96	2	53	23†	32	7.61	+ 2.94	2.20	0.0	10	22	7	2	se.	F. A. Barton.
Plymouth	Jefferson	1,419	5	76.2	+ 2.1	97	3	52	23	31	8.63	+ 3.20	5.50	0.0	11	10	14	7	se.	John Ruppel.
Purdum	Blaine		8	73.6	+ 2.4	96	20†	45	23	42	3.04	− 0.46	1.00	0.0	7	18	9	4	se.	T. C. Jackson.
Ravenna	Buffalo	2,028	20	74.2	+ 0.4	98	2	48	23	36	5.47	+ 1.15	1.57	0.0	14	15	11	5		Erastus Smith.
Redcloud	Webster	1,687	13	76.2	− 0.6	96	3	50	23	35	5.73	+ 0.95	1.87	0.0	11	21	6	4	se.	C. S. Ludlow.
St. Libory	Howard	1,887									9.96	+ 4.98	2.80	0.0	9	10	13	8	se.	W. I. Meader.
St. Paul	do	1,796	15	75.2	+ 0.3	98	2	51	23	35	6.76	+ 1.72	1.79	0.0	8	16	9	6	se.	Paul Anderson.
Santee	Knox		22	74.4	− 1.2	99	2†	54	23	33	2.93	− 0.68	0.82	0.0	8	19	5	7	nw.	E. G. Kendall.
Sargent	Custer		1	73.1		100	2	46	23†	43	5.75	+ 2.17	2.90	0.0	4	19	0	12	se.	J. L. Ferguson.
Schuyler	Colfax	1,357									6.86	+ 2.87	2.75	0.0	10	8	10	13	se.	Agent, C. B. & Q. R. R.
Scottsbluff	Scottsbluff	4,662	3	71.8		94	18	45	13†	42	2.53		1.00	0.0	7	23	8	0	se.	A. B. McCoskey.
Seward	Seward	1,435						52	22		5.77	+ 1.06	3.50	0.0	8	16	11	4	se.	Agent, C. B. & Q. R. R.
Sheridan	Wheeler										5.90		1.20	0.0	10	18	6	7	se.	J. C. Harris.
Sidney	Cheyenne	4,090									1.92	− 0.44	0.55	0.0	7	22	9	0	se.	J. P. Fischer.
Springview	Keyapaha		18	74.3	+ 1.0	100	2†	50	22†	36	2.08	− 1.14	1.05	0.0	8	17	10	4	se.	C. L. Phelps.
Stanton	Stanton	1,472	15	72.4	− 0.4	96	2	47	23†	39	4.29	+ 0.33	1.17	0.0	10	10	20	1	sw.	Alfred Pont.
Stratton	Hitchcock	2,804									0.94	− 1.53	0.60	0.0	5					Stella Vennum.
Superior	Nuckolls	1,574																		Agent, C. B. & Q. R. R.
Syracuse	Otoe	1,059									5.20	+ 0.45	2.80	0.0	7	15	0	16	e.	Do.
Tablerock	Pawnee	1,023									7.89	+ 3.16	3.34	0.0	14	19	10	2	s.	E. D. Howe.
Tecumseh	Johnson	1,113	22	78.8	+ 1.4	106	29	60	4†	45	8.02	+ 3.56	6.00	0.0	9	13	12	6	sw.	Agent, C. B. & Q. R. R.
Tekamah	Burt	1,060	19	74.1	− 0.8	97	2	51	24	33	6.42	+ 1.77	2.67	0.0	10	14	11	6	se.	A. D. Nesbit.
Turlington	Otoe	1,214	18	75.2	− 0.7	95	29	55	24	31	5.68	+ 1.65	2.75	0.0	11	18	6	7	se.	W. N. Hunter
University Farm §	Lancaster		8	75.8	+ 1.5	97	2	50	24	36	3.82	− 0.42	2.15	0.0	8	8	19	4		S. W. Perin.
Valentine	Cherry	2,613	21	73.5	+ 0.3	99	20	49	23	35	1.62	− 1.78	0.80	0.0	4	19	12	0	s.	U. S. Weather Bureau.
Wahoo	Saunders	1,187									6.67	+ 1.32	2.32	0.0	8	16	11	4	se.	Wm. T. Mauck.
Wakefield	Dixon	1,387	13	72.4	− 0.3	96	2	47	24	37	3.99	+ 0.57	0.88	0.0	11	14	7	10	s.	I. H. Weaver.
Wallace	Lincoln	3,116									3.25	+ 0.53	1.85	0.0	4				s.	Agent, C. B. & Q. R. R.
Walthill	Thurston										1.27	− 2.98	0.70	0.0	5					Harry L. Keefe.

TABLE 1.—*Climatological data for July, 1909. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nebraska—Cont'd.																				
Watertown	Buffalo	2,299									3.50		0.98	0.0	8	11	14	6	se.	R. E. Swift.
Wauneta	Chase										1.03	− 2.01	0.60	0.0	5					C. D. Fuller.
Weepingwater	Cass	1,080	3	75.0		99	21	49	24	39	2.96	− 1.07	1.05	0.0	10	19	3	9	se.	S. W. Orton.
Westpoint	Cuming	1,313	13	72.4	− 2.0	95	2	48	24	35	4.76	+ 0.60	1.31	0.0	9	20	5	6	s.	J. C. Elliott.
Wilber	Saline	1,325									8.85	+ 3.38	6.60	0.0	6	10	10	11	se.	Agent, C. B. & Q. R. R.
Wisner	Cuming	1,380														11	11	9	se.	Aoff & Deily.
Woodlawn	Lancaster	1,186									4.71		1.89	0.0	9	12	11	8	se.	H. C. Kendall.
York	York	1,606	17	75.7	− 0.9	94	1†	53	23	34	9.12	+ 4.57	6.90	0.0	9	17	7	7	ne.	H. T. Gianque.
Iowa.																				
Afton	Union	1,212	14	75.2	0.0	97	29	58	23†	30	5.21	+ 0.86	1.85	0.0	11	11	13	7	sw.	N. W. Rowell.
Allerton	Wayne	1,513	17	73.6	+ 1.0	96	29	57	4†	29	11.86	+ 7.29	6.50	0.0	10	19	5	7	sw.	Mrs. Geo. Shriver.
Alta	Buena Vista		6	70.4	− 1.5	93	2	52	5	27	5.86	− 1.18	1.68	0.0	16	13	10	8	s.	David E. Hadden.
Alta (near)	do.										8.37	+ 3.49	1.90	0.0	15					W. J. Minard.
Alton	Sioux	1,305	3	71.5		98	2	50	22	39	6.61		2.70	0.0	11	19	3	9	s.	W. S. Slagle.
Atlantic	Cass	1,164	17	74.2	+ 1.0	94	29	53	24	32	6.00	+ 1.67	2.40	0.0	12	13	9	9	ne.	Thos. H. Whitney.
Audubon	Audubon	1,301	15	71.5	− 0.6	92	2	48	24	33	7.33	+ 3.41	2.65	0.0	12	17	4	10	se.	Geo. E. Kellogg.
Bedford	Taylor		8	74.6	+ 1.2	99	29	52	24	31	7.29	+ 1.95	2.90	0.0	13	19	3	9	se.	E. E. Healy.
Chariton	Lucas	1,042	13	71.9	− 1.9	97	29	56	4†	32	6.11	+ 0.65	2.70	0.0	7	18	7	6	se.	C. C. Burr.
Clarinda	Page	1,009	18	74.8	− 0.7	97	29	52	24	33	7.55	+ 2.85	2.65	0.0	10	15	2	14	s.	H. S. Van Sandt.
Corning	Adams	1,117	16	74.0	+ 0.4	95	29	51	24	33	6.87	+ 2.52	2.83	0.0	11	12	10	9	se.	Jerome Smith.
Corydon	Wayne	1,101	15	73.6	− 1.2	96	29	57	4†	26	7.34	+ 3.16	2.82	0.0	12	16	8	7	e.	Clara Miller.
Creston	Union	1,312	3	72.3		95	29	50	24	34	5.16		2.18	0.0	11	16	5	10	se.	Edgar Stovall.
Cumberland	Cass		9								4.73	− 0.71	1.16	0.0	9	19	4	8	sw.	J. H. Reppert.
Denison	Crawford	1,180	13	71.4	− 1.3	91	2	49	24	33	6.08	+ 2.02	1.84	0.0	11	18	5	8	s.	W. C. Van Ness.
Elliott	Montgomery		3	74.0		92	29	59	24	24	8.44		5.00	0.0	8	14	11	6	se.	Henry Barnes.
Hancock	Pottawattamie	1,113	2	74.8		96	2	54	23†	32	2.85		2.00	0.0	4	19	1	11	se.	G. C. Rogers.
Harlan	Shelby	1,192	9	72.3	− 0.9	93	18	50	24	34	5.03	− 0.28	2.60	0.0	10	5	14	12	e.	C. A. Reynolds.
Hopeville	Clarke		17	73.4	− 0.7	96	29	56	23†	27	7.36	+ 2.51	2.49	0.0	14	9	14	8	e.	M. T. Ashley.
Inwood	Lyon	1,474	4	71.6		97	2	50	23	33	4.37		0.96	0.0	15	20	3	8	s.	F. B. Hanson.
Lamoni	Decatur			75.2		99	29	53	4	32	11.78		4.05	0.0	17	18	5	8	se.	T. J. Fitzpatrick.
Larrabee	Cherokee	1,266	17	71.3	− 1.5	97	2	50	4†	31	5.79	+ 1.42	1.93	0.0	8	15	8	8	se.	H. B. Strever.
Le Mars	Plymouth	1,224	12	70.4	− 2.0	90	2†	52	4†	28	6.82	+ 2.35	1.92	0.0	11	12	13	6	s.	G. A. C. Clarke.
Lenox	Taylor	1,250	13	73.8	0.0	95	29	54	24	28	9.86	+ 4.92	3.90	0.0	13	18	3	10	s.	J. L. Hurley.
Leon	Decatur	1,120	6	74.3	+ 1.1	95	29	57	4†	32	10.90	+ 6.48	4.15	0.0	15	13	9	9	sw.	Morris Gardner.
Little Sioux	Harrison		4	73.9		95	2	53	24	31	4.13		1.35	0.0	8	17	4	10	se.	Geo. H. Gibson.
Logan	do.	928	42	73.2	− 1.5	95	2	52	24	32	6.83	+ 1.60	4.42	0.0	8	17	8	6	ne.	Glen H. Stern.
Mt. Ayr	Ringgold	1,236	15	74.6	− 0.4	97	29	52	4	32	12.20	+ 6.89	3.90	0.0	16	14	12	5	sw.	A. F. Beard.
Odebolt	Sac	1,356	10	73.2	− 1.3	96	1†	51	24	36	5.85	+ 1.21	1.55	0.0	13	21	0	10	se.	E. Starner.
Onawa	Monona	1,051	8	74.8	− 0.2	95	2	57	23	26	4.38	− 1.29	1.68	0.0	13	21	0	10	se.	C. G. Perkins.
Pacific Junction	Mills	960	9	74.6	+ 0.4	94	29	53	24	32	3.13	− 2.00	0.92	0.0	8	16	12	3	s.	H. H. McCartney.
Rock Rapids	Lyon	1,358	9	73.8	+ 2.0	95	2	53	5†	34	4.63	+ 1.76	1.21	0.0	10					W. C. Wyckoff.
Sheldon	O'Brien	1,422	8	71.8	− 0.3	97	2	50	4†	36	5.85	+ 0.71	2.30	0.0		15	8	8	sw.	Dr. A. W. Beach.
Sibley	Osceola	1,212	15	69.3	− 0.9	94	2	51	5†	28	3.21	− 0.76	1.10	0.0	15	18	5	8	sw.	Francis C. Doolittle.
Sioux Center	Sioux		9	71.0[b]	− 0.2	93[b]	2	51[b]	4	31[b]	7.74	+ 3.02	3.95	0.0	11	17	4	10	s.	J. Deruyter.
Sioux City	Woodbury	1,135	20	72.2	− 2.0	96	2	54	24	27	4.09	+ 0.48	1.13	0.0	10	15	4	12	s.	U. S. Weather Bureau.
Thurman	Fremont		11	75.8	+ 0.4	95	2	52	24	32	3.45	− 2.46	1.32	0.0	10	11	12	8	e.	C. R. Paul.
Washta	Cherokee	1,157	10	70.8		95	2	46	20	37	6.89	+ 2.44	2.75	0.0	10	13	10	8	w.	H. L. Felter.
Woodburn	Clarke	961	9	72.3		96	29	50	24	33	6.51	+ 1.35	2.60	0.0	11	13	11	7	ne.	C. B. McDonough.
Kansas.																				
Abilene	Dickinson	1,157	14								8.22	+ 4.02	2.94	0.0	13	11	11	9	se.	J. H. Sherman.
Agricultural College	Riley	1,100	51	78.5	− 0.2	98	3	56	24	30	9.57	+ 4.95	2.02	0.0	12	15	9	7	s.	J. O. Hamilton.
Alton	Osborne	1,651	7	78.4	+ 2.1	98	3†	51	23	34	2.69	− 0.23	1.31	0.0	5	15	13	3	se.	H. A. Storer.
Atchison	Atchison	973	18	77.4	+ 0.4	95	5†	60	16	30	8.64	+ 3.69	5.30	0.0	10	23	5	3	s.	M. F. Troxell.
Baker	Brown	1,182	9	75.0[b]	− 1.7	93[b]	3	53[b]	23	28[b]	8.59	+ 4.08	4.55	0.0	9	12	6	11	s.	E. A. Bastien.
Beloit	Mitchell	1,383	14								6.30	+ 2.64	2.00	0.0	12	14	8	9	se.	W. H. Houghton.
Blakeman	Rawlins	2,894	1	76.4	+ 0.7	98	4	47	23	37	2.39	− 1.09	1.75	0.0	7	21	5	5	se.	C. L. Henderson.
Blue Rapids	Marshall	1,105	3								5.80		1.19	0.0	12	20	3	8		M. Norton.
Centralia	Nemaha	1,256		75.4		94	3	53	23	27	9.75		1.93	0.0	13				se.	L. E. Hazen.
Chapman	Dickinson	1,123	5	79.0		100	3	55	24	30	5.98	+ 1.73	1.88	0.0	11	23	7	1	s.	R. McShea.
Clay Center	Clay	1,203	8	78.4	+ 1.6	100	5	54	23	35	6.76	+ 2.53	1.45	0.0	10	15	7	9	s.	O. L. Slade.
Colby	Thomas	3,138	18	75.8	+ 0.4	98	4	54	23	34	2.98	+ 0.42	1.52	0.0	7	18	10	3	se.	R. M. Chelf.
Concordia	Cloud	1,398	25	77.9	− 0.2	99	5	58	23	29	7.86	+ 4.24	2.14	0.0	14	8	23	0	se.	U. S. Weather Bureau.
Densmore	Norton	2,200		77.2		97	4†	47	23	39	2.50		0.69	0.0	7	12	15	4	e.	F. S. Griffith.
Dresden	Decatur	2,731	15	77.0	+ 2.2	98	4†	53	23	34	3.44	− 0.45	1.43	0.0	6	15	6	10	se.	Jacob Bock.
Ellsworth	Ellsworth	1,537	5	77.5	+ 0.3	102	5	55	23	36	6.05	+ 1.72	2.30	0.0	9	13	12	6	s.	George Seitz.
Enterprise	Dickinson	1,144	7	77.8[b]	+ 0.5	98[b]	5	58[b]	22†	31[b]	8.86	+ 4.66	2.95	0.0	12	15	11	3	s.	G. F. Wagner.
Eskridge	Wabaunsee	1,412	3	76.2		95	5	59	23	25	12.19		5.22	0.0	13	22	7	2	s.	G. D. West.
Farnsworth	Lane	2,850	8	76.8	+ 1.0	95	29	57[l]	13	35[l]	4.82	+ 1.27	1.64	0.0	11	19	11	1	s.	C. M. Jennison.
Ft. Scott	Bourbon	857	13	77.2	− 0.5	96	3	52	24	33	7.83	+ 3.07	2.85	0.0	12	21	0	10	sw.	E. A. Shaver.
Frankfort	Marshall	1,146	15	78.3	+ 0.1	101	3	53	24	33	7.57	+ 2.57	1.42	0.0	12	11	17	3	ne.	E. C. Dunham.
Garnett	Anderson	950	3	77.9		94	3	61	13	28	14.06		5.49	0.0	13	19	11	1	s.	J. S. McCartney.
Goodland	Sherman	3,687	3																	G. L. Calvert.
Gove	Gove	2,750	20	76.5	− 0.5	95	4	60	11†		2.37	− 1.28	1.07	0.0	7	11	20	0	se.	Jesse Royer.
Hanover	Washington	1,225	6	78.3	+ 0.7	99	29	55	23	33	7.29	+ 3.16	2.00	0.0	13	20	7	4	s.	August Jaedicke, jr.
Harrison	Jewell	1,804	8	76.5	+ 0.5	97	3†	50	23	34	6.05	+ 0.90	2.78	0.0	9	21	5	5	se.	Mahlon Tegley.
Hays	Ellis	2,000	21	77.6	+ 0.8	99	21	59	13	32	3.71	+ 0.19	1.04	0.0	7	14	15	2	se.	G. K. Helder.
Hill City	Graham	2,134	1	88.4[k]		97	3†	49[i]	22	29			2.29	0.0						L. R. Mort.
Horton	Brown	1,188	20	75.2	− 0.7	92	2†	57	23	27	8.96	+ 4.57	3.58	0.0	11	22	4	5	s.	Mrs. S. C. Belden.
Hoxie	Sheridan	2,700	12	77.6	− 0.4	99	4	52	23	38	3.21	+ 0.21	1.65	0.0	5	17	11	3	se.	C. T. Dallam.
Jewell	Jewell	1,540	4	77.2[c]		101	5	55	25	34[f]	8.32	+ 2.46	2.50	0.0	9	19	6	6	s.	C. A. Shinn.
Lawrence	Douglas	874	12	76.2	− 1.1	92	5	62	23†		6.47	+ 1.67	1.67	0.0	13	14	12	5	s.	H. P. Cady.
Lebanon	Smith	1,812	11	77.8	+ 1.9	98	3	56	23	30	6.21	+ 1.88	1.85	0.0	10	23	4	4	se.	Dr. W. C. Bower.
Lindsborg	McPherson	1,333	3								4.14		1.41	0.0	6	18	0	13	s.	J. R. Lynch.
Manhattan	Riley	1,014	19	78.2	+ 0.4	97	3†	55	23†	30	9.81	+ 5.03	2.15	0.0	14	15	4	12		Dr. C. P. Blachly.
Mankato	Jewell	1,784		77.3		98	21	55	23	31	6.33		2.00	0.0	12	21	2	8	s.	R. M. Cauthorn.
Minneapolis	Ottawa	1,259	19	77.6	− 1.3	98	5	57	23†	29	5.62	+ 2.55	1.19	0.0	15	19	9	3	s.	J. L. Steele.
Moran	Allen	1,098	13	78.5	+ 0.7	97	3	57	23	30	6.77	+ 1.66	2.29	0.0	11	16	11	4	se.	C. J. Norton.
Norton	Norton	2,284	11	77.0	+ 2.5	97	20	49	22	39	2.59	− 1.06	0.66	0.0	7	19	9	3	se.	H. A. Sleffel.
Oberlin	Decatur	2,539	18								2.22	− 1.40	1.04	0.0	7	25	6	0	s.	I. K. Huber.
Oketo	Marshall	1,194	1	77.5		95	3†	56	23†	28	6.45		2.20	0.0	13	17	10	4	sw.	J. A. Church.
Olathe	Johnson	1,032	14	76.8	− 0.2	94	3	56	23†	29	5.44	− 0.04	1.88	0.0	15	16	9	6	se.	Dr. S. B. S. Wilson.
Osage City	Osage	1,081	9	77.3[a]	− 0.1	99[a]	3	55[a]	24	31[a]	18.67	+13.90	9.65	0.0	9	17	2	11	s.	W. C. White.
Ottawa	Franklin	926	15	76.4	− 1.0	96	3	52	24	32	11.76	+ 6.60	5.77	0.0	11	19	9	3	se.	Dr. W. J. Norton.
Phillipsburg	Phillips	1,939	16	77.2	+ 0.4	97	3†	56	23	33	3.44	+ 0.70	0.98	0.0	18	11	2	2	se.	N. E. Bailey.
Pleasanton	Linn	862	7	76.0	− 0.9	91	5†	56	24	23	10.83	+ 6.66	4.20	0.0	11	22	7	2	s.	B. F. Blaker.
Republic	Republic	1,495	7	74.5[c]	− 1.3	97[c]	4†	55[c]	13†	39[c]	7.20	+ 1.70	2.42	0.0	11	16	5	7	s.	F. B. Potter.
St. Francis	Cheyenne	3,288	1	76.4		101	20	51	13†	42	2.42		1.00	0.0	8	13	15	3	se.	J. E. Uplinger.

TABLE 1.—*Climatological data for July, 1909. District No. 6*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Kansas—Cont'd.																				
Salina	Saline	1,227	24	78.2	− 1.4	100	31	56	23†	33	5.66	+ 1.92	1.73	0.0	13	13	16	2	s.	Prof. A. W. Jones.
Scott	Scott	2,971	3	77.6	.....	96	4	57	22	37	4.69	.....	1.39	0.0	8	16	9	6	s.	J. B. Loughran.
Topeka	Shawnee	997	23	78.0	+ 0.4	97	29	60	24	29	11.60	+ 6.75	5.11	0.0	13	18	9	4	se.	U. S. Weather Bureau.
Valley Falls	Jefferson	913	10	76.4	+ 0.6	95	5	56	24	27	11.16	+ 6.61	4.00	0.0	12	20	10	1	se.	Miss Nettie Maxwell.
Vinland	Douglas	880	..	76.1	.....	92	3	55	24	28	7.93	.....	4.28	0.0	9	14	8	9	se.	A. Schick.
Wakeeney	Trego	2,456	5	76.5	− 0.6	95	29	53	23†	31	3.43	− 0.04	1.34	0.0	8	22	6	3	se.	A. S. Peacock.
Wallace	Wallace	3,303	39	76.2	+ 1.9	98	21	55	13	38	2.61	− 0.73	0.53	0.0	8	5	26	0	se.	M. T. Griggs.
Wamego	Pottawatomie	1,002	16	.....	.....	.....	.....	.....	.....	.....	9.95	+ 4.81	2.50	0.0	9	14	12	5	sw.	M. L. Stone.
Missouri.																				
Albany	Gentry	.....	2	.....	.....	.....	.....	.....	.....	.....	10.93	.....	3.86	0.0	11	19	3	9	s.	W. E. Elder.
Amoret	Bates	850	0	74.8	.....	97	4	49	23†	39	15.25	.....	6.45	0.0	10	22	2	7	s.	C. L. Glassmire.
Appleton City	St. Clair	853	18	78.7	+ 1.0	98	31	56	24	41	10.54	+ 5.22	3.40	0.0	10	17	11	3	s.	T. C. Brown.
Arlington	Phelps	695	23	.....	.....	.....	.....	.....	.....	.....	4.80	+ 1.72	1.60	0.0	10	9	9	13	.....	P. W. Andres.
Arthur	Vernon	767	16	77.4	+ 1.2	95	29	58	21	32	6.33	+ 1.90	2.31	0.0	12	16	13	2	sw.	J. T. Armstrong.
Avalon	Livingston	.....	24	76.4	− 0.4	94	21	75	21	32	6.30	+ 1.67	3.10	0.0	11	22	7	2	sw.	F. G. Ashbaugh.
Bagnell	Miller	594	14	.....	.....	.....	.....	.....	.....	.....	7.46	.....	1.70	0.0	7	14	4	12	e.	W. S. Brockman.
Bethany	Harrison	881	19	74.3	− 0.5	94	29	54	15	32	14.01	+ 9.63	10.71	0.0	10	20	3	8	se.	W. H. Skinner.
Bolivar	Polk	1,070	21	76.5	+ 0.5	97	6	51	24	34	9.37	+ 5.78	4.87	0.0	13	14	16	1	sw.	E. Waltz.
Boonville	Cooper	600	33	.....	.....	.....	.....	.....	.....	.....	6.18	+ 1.88	2.20	0.0	10	15	3	13	se.	C. Randecker.
Brunswick	Charitan	651	30	77.6	+ 0.8	102	18	60	25	32	7.28	+ 2.77	2.17	0.0	8	11	4	16	e.	Louis Beneke.
Clinton	Henry	860	7	79.0	.....	98	3	55	24	35	6.81	.....	2.58	0.0	11	19	11	1	s.	Dr. G. W. Menees.
Columbia	Boone	784	18	75.2	− 2.2	93	6	55	24	30	4.78	+ 1.03	1.28	0.0	14	13	9	9	e.	U. S. Weather Bureau.
Conception §	Nodaway	982	24	74.8	− 0.7	95	29	56	23	31	6.16	+ 1.84	2.30	0.0	8	13	9	9	se.	Fr. Adhelm Hess.
Darksville	Randolph	826	18	75.2	− 0.8	91	6	58	4	27	5.25	+ 1.05	2.25	0.0	7	18	6	7	s.	W. H. Broadelus.
El Dorado Springs	Cedar	750	3	77.7	.....	96	30	54	21	36	4.47	.....	1.96	0.0	10	19	10	2	sw.	Samuel Graham.
Fairport	De Kalb	920	15	.....	.....	.....	.....	.....	.....	.....	7.27	.....	3.85	0.0	10	20	3	8	sw.	J. W. Lincoln.
Fayette §	Howard	725	26	75.0	− 2.3	90	21	58	25	28	3.97	− 0.01	1.51	0.0	10	18	4	9	.....	T. Berry Smith.
Fulton *	Galloway	818	18	75.2	− 1.4	93	21	54	20	31	3.84	− 0.93	1.15	0.0	12	17	7	6	.....	Mrs. Ruth McKinney.
Gallatin	Daviess	803	16	.....	.....	.....	.....	.....	.....	.....	5.73	+ 1.03	2.50	0.0	9	21	6	4	s.	Dr. W. P. Young.
Glasgow	Howard	618	30	.....	.....	.....	.....	.....	.....	.....	3.96	+ 0.14	0.78	0.0	8	13	5	13	s.	J. J. Shaughnessy.
Grant City	Worth	1,130	17	74.8	.....	85	29	55	4	29	10.33	+ 5.17	4.92	0.0	14	18	5	8	s.	W. H. Campbell.
Harrisonville	Cass	912	37	77.8	+ 0.4	96	5	57	24	32	7.01	+ 3.00	1.80	0.0	13	13	2	16	sw.	A. J. Sharp.
Hazelhurst	Livingston	.....	16	.....	.....	.....	.....	.....	.....	.....	6.57	+ 2.59	2.90	0.0	6	.....	.....	.....	.....	W. H. Baker.
Hermann	Gasconade	482	35	.....	.....	.....	.....	.....	.....	.....	3.90	− 0.06	1.06	0.0	11	13	5	13	se.	C. T. Maushund.
Houston	Texas	1,280	17	75.0	− 0.9	92	31	50	24	31	8.21	+ 3.99	2.55	0.0	9	4	26	1	s.	E. Dempsey.
Huntsville	Randolph	790	6	.....	.....	.....	.....	.....	.....	.....	5.80	.....	2.25	0.0	5	.....	.....	.....	.....	F. H. Hammett.
Jefferson City	Cole	628	27	76.6	− 1.5	98	2	55	20†	40	2.75	− 1.06	1.07	0.0	9	18	5	8	n.	Miss Emma Swift.
Kansas City	Jackson	963	21	77.8	+ 0.2	94	3	63	12	23	6.34	+ 1.50	1.79	0.0	12	15	11	5	s.	U. S. Weather Bureau.
Kidder	Caldwell	1,017	16	75.4	− 0.8	93	29	58	23	26	7.84	+ 3.45	2.62	0.0	14	14	3	14	sw.	J. F. Sharp.
Lamonte	Pettis	863	21	76.8	.....	94	21	53	24	35	5.35	+ 0.69	1.85	0.0	15	13	15	3	sw.	J. R. Wade.
Lebanon	Laclede	1,265	20	75.7	− 0.9	93	6	54	24	28	6.27	+ 1.70	3.53	0.0	10	12	14	5	se.	M. W. Serl.
Lexington	Lafayette	813	27	77.0	+ 0.6	93	31	58	21†	31	6.10	+ 0.92	2.80	0.0	12	14	0	17	s.	J. W. Keithley.
Liberty	Clay	864	21	76.8	− 0.5	92	21	60	23	25	5.96	+ 1.28	1.66	0.0	11	19	9	3	sw.	J. W. Kyle.
Lockwood *	Dade	1,088	14	78.0	.....	94	30	56	24	29	5.11	− 0.45	2.51	0.0	10	22	5	4	ne.	C. S. Crow.
Marshall	Saline	779	18	76.7	+ 0.3	93	21	55	21†	34	5.20	+ 0.92	2.00	0.0	12	18	6	6	sw.	W. H. Black.
Marshfield *	Webster	1,492	0	77.1	.....	94	13	51	24	42	7.38	.....	2.50	0.0	10	11	7	9	sw.	Dr. J. P. Keller.
Maryville	Nodaway	1,160	19	75.3	+ 0.1	96	29	57	23†	29	10.70	+ 5.16	6.00	0.0	15	15	9	7	sw.	J. R. Brink.
Mt. Vernon	Lawrence	1,480	33	77.8	+ 0.2	94	30	52	34	24	6.70	+ 1.35	2.00	0.0	11	11	20	0	ne.	Dr. O. H. Brown.
Nevada	Vernon	869	15	.....	.....	.....	.....	.....	.....	.....	5.61	+ 1.53	1.81	0.0	9	21	9	1	sw.	C. Jewell.
New Palestine	Cooper	795	17	76.4	− 1.1	94	6	57	21	33	5.54	+ 1.31	2.11	0.0	5	21	8	2	sw.	A. I. Zeigle.
Oregon	Holt	1,113	54	75.2	0.0	95	29	53	13	31	6.23	+ 1.72	3.54	0.0	10	20	5	6	se.	Tom Curry.
Osceola	St. Clair	738	9	.....	.....	.....	.....	.....	.....	.....	7.98	.....	3.10	0.0	9	17	3	11	.....	W. E. Matthews.
Parkville	Platte	.....	0	77.1	.....	96	3	58	23	27	7.76	.....	1.75	0.0	13	15	13	3	s.	Prof. A. D. Wolfe.
Rolla	Phelps	1,092	28	76.8	.....	93	21	55	24	32	4.65	+ 0.50	1.85	0.0	9	16	8	7	sw.	Prof. P. J. Wilkins.
St. Charles	St. Charles	614	31	77.4	0.0	97	2	54	4	31	6.86	+ 3.42	2.31	0.0	8	16	10	5	s.	L. C. Saeger.
St. Joseph	Buchanan	825	37	79.5	.....	97	29	58	24	29	5.80	+ 1.87	2.90	0.0	14	21	7	3	e.	Grant Forbes.
St. Louis		567	39	77.0	− 2.1	96	2	57	4	24	7.34	+ 3.91	2.27	0.0	13	10	16	5	se.	U. S. Weather Bureau.
Sublett	Adair	1,000	29	73.8	− 2.1	94	1	53	5	28	12.60	+ 8.50	3.50	0.0	8	10	14	7	sw.	Erres Spriggs.
Trenton	Grundy	812	14	76.6	+ 0.8	91	18†	59	23†	26	8.39	+ 4.45	2.65	0.0	9	21	4	6	se.	J. H. Flesher.
Unionville	Putnam	1,072	16	73.2	− 3.9	94	29	57	4†	30	9.92	+ 5.64	5.21	0.0	10	12	5	14	s.	Geo. W. Davis.
Versailles	Morgan	1,021	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warrensburg	Johnson	883	30	77.5	− 0.9	95	3	58	23†	24	6.49	+ 2.23	1.47	0.0	12	16	11	4	sw.	Prof. S. F. Prince.
Warrenton	Warren	865	19	76.2	− 1.2	97	2	54	4	31†	4.63	+ 0.78	1.27	0.0	10	12	4	15	s.	John H. Frick.
Warsaw	Benton	700	5	78.8	.....	98	3	55	21†	38	8.00	.....	3.70	0.0	13	13	16	2	sw.	Dr. J. R. Smith.
Wheatland	Hickory	920	17	.....	.....	.....	.....	.....	.....	.....	6.76	+ 2.60	4.05	0.0	12	16	13	2	s.	Mrs. S. A. Jackson.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
* * Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ ‖ Estimated by observer.
‖ ‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 6, Missouri Valley.*

Stations.	River basins.	Day of month.																												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Arapahoe	Big Horn				.49	.06														T.	T.						.07						0.62
Barnum	Powder			.25	.04					T.										.40							.30						0.99
Basin	Big Horn										.13											.14						.50					0.77
Bennett	North Platte				.50														.51						.54	.14		.35					2.04
Cheyenne	South Platte				.25	T.		T.		T.				T.		T.			T.		.22			T.	.05		.39	T.	.14	.03			1.08
Cheyenne Exp. Farm	do				.31	T.		.02		T.						T.			.08		.07				T.		.38	.03		.08			0.97
Chugwater	North Platte				.30		T.											T.							T.		T.	.60			.50		1.40
Clark	Clark's Fork		.13	.21	T.	.19				T.	T.	.06					.04								T.	T.	.87	.05			T.		1.55
Crystal Lake Reservoir	South Platte				.84	.01	.01									T.		T.		.47				T.	1.00		.17						2.50
Douglas	North Platte										.26	.02							.01	.06					.02		.04						0.41
Dubois	Big Horn			.03	.12	T.					T.													T.			.41						0.56
Eaton's Ranch	Tongue	T.	T.							T.		.07									.10				.45			.04					0.66
Echeta	Powder			.54		.87						.56																					1.97
Elk Mountain	North Platte					.29														.22	.10				.75		.06	.05					1.47
Encampment	do				.80	.20								T.		T.				.37	T.	T.		.25	.50		.01	.02	T.				2.15
Ervay	do				.31	.04											T.	T.	.05	T.					T.		.35	.09					0.84
Filmore	do				.90														.13	.31													1.44
Fort Laramie	do					.09	T.										T.											.29					0.38
Gillette	Powder				.67	1.10				T.	T.	.12								.08	.27	.68												2.92
Granite Canyon	South Platte				1.00	T.		.02		T.				T.	T.				.07	.03	.08	.65		.02	T.		.22		T.				2.09
Hunter's Station	Powder		.03			.34					.04	.07									.09			T.	.09		.11						0.77
Hyattville	Big Horn				.05																							.02					0.07
Independence	North Platte				.35	.40													T.	T.							.30						1.05
Kaycee	Powder			.47				T.											.41	.39	.31					.52							2.10
Kirtley	Niobrara										.34														T.		.15						0.49
Kirwin	Big Horn			.20	.05	T.	.10				T.	.13	T.							.08	.40					.10	.13	.75						1.94
Knowles	Belle Fourche			.02	.47	.10	T.			.72	.08	.02									.42	.42					.05	T.				.02		2.32
Lander	Big Horn			T.	.07	.11													T.								.11	.02					0.31
Laramie	North Platte				.04	.40	.25														.20			.04				.07					1.00
Leo	do			T.	T.														T.	.14	.06			T.	.04		.20						0.44
Lolabama Ranch	Clark's Fork		.80	.10																						.20	.30						1.40
Lovell	Big Horn			.20								.02							T.		.06						.10	.29					0.67
Lusk	Niobrara					.75																											0.75
Luther	South Platte				T.	.81	.79	T.													T.							.25			.30		2.15
Manville	Niobrara					T.					.40							T.	.08		.19				.05		.04		.05				0.81
Moorcroft	Belle Fourche																			.60	.34												0.94
Moore	North Platte																		.01	.01							.06						
Newcastle	S. Fork, Cheyenne				1.31		T.			.24		.06							T.	.32		T.			.11		.02						2.06
Pathfinder	North Platte				.11															.07							.22						0.40
Phillips	do				.32	1.40					1.41						T.	T.									.29		.50				4.22
Pine Bluff	South Platte					T.		.16			T.					T.		.14								.29	T.						0.59
Powell	Big Horn				T.						.02										.04						.10	.13					0.29
Riverton	do				.16															T.	T.				T.		T.	.17					
Saratoga	North Platte				.23									T.					.14	.06	T.			.59	.08		.09						1.19
Sheridan, (1)	Tongue		.01	.07						.05	.38	.30							T.	T.	.08			T.	T.		.01	T.					0.90
Sheridan, (2)	do			.24							.47	.25									T.												0.96
Shoshone Dam	Big Horn			.71	T.						T.	T.								.02	.10				.01	T.	.14	.19					1.17
Soldier's Home	Powder			T.	.04	.05					.05	T.								.13						.19	T.						0.96
South Pass City	North Platte			.54	.31	.09														T.				T.		.05		.05	.21				1.25
Thermopolis	Big Horn			T.		T.	T.														T.				T.		T.	.04					0.04
Upton	S. Fork, Cheyenne				1.03														1.04		.05												2.12
Valley	Big Horn			.75	.02		.04					.16									.27					.29	.30	.40	.01				2.24
Verona	Tongue			.50							.41	.09																					1.00
Wiley	Big Horn		.12	.90						.05	.04	T.								.02	.15			T.	.20	T.		.20					1.68
Wyncote	North Platte				.12					.40																	.30						0.82
Yellowstone Park	Yellowstone		.16	.01	.31	T.			T.	.20	.01	.01							T.	T.	.42			.08	.21	T.	.34	.09	.01	T.	T.		1.85
(1) Fountain	Madison			.33	.33						T.	T.							T.		.33			.22		T.	.24	.38					1.83
(2) Grand Canyon	Yellowstone			.31	.15							.14								.50	.30			.04	.39	.60	.52	.25					3.20
(3) Lake Yellowstone	do			.03	.40	.40						.15									.44				.18	T.	.67	.36					2.63
(4) Norris Geyser B.	do		.20	.30	.55				.10											.11					.18		.45	.10	.28				2.25
(5) Riverside	Madison			.50		.28					.08	.03							.03	.11	.22			.11			.20	.16	.09				1.81
(6) Soda Butte	Yellowstone								T.	T.		T.									.35	T.	T.		T.		.45	T.					0.80
(7) Sylvan Pass	Big Horn			.72								.38									.25						.32	.44					2.11
(8) Thumb	Yellowstone																				.66			.24	.24	.20	.75	.38					2.47
(9) Tower Falls	do			.25		.30																											0.55
(10) Up. Geyser Basin	Madison				.50																			.60									1.10
Montana.																																	
Adams	Yellowstone		T.	.26	.30			T.				.16	1.07					.20				1.23					T.	.05	.05				3.32
Adel	Missouri		T.	1.46	.64	.51	1.63	.05	T.		T.							T.		.05		.09		T.		T.	1.00	.16	.15	T.			5.74
Agricultural College	Gallatin																																
Augusta	Sun River			.11	T.	.56															.58						1.98	2.28					5.51
Babb	Milk River				.80		.41																				.89	1.73	2.23					6.06
Bald Butte	Missouri		.03	T.	.17	.37	T.		.05	.17	T.									T.	.34	.02		T.	.03	.01	.46	.89	T.				2.45
Big Creek	Yellowstone			.36	.07				.05	.09											.55			.16				.06		.05			1.39
Billings	do				.02			.18	.02			T.	T.							T.	T.	.68			.02			.40	.82		.02		2.16
Boulder Nursery	Jefferson					.02	.17	T.		.42	.17	T.									.81	.11		.11	.12	T.	.77	.50					3.20
Bowen	do			.03	.02		.23	.01		.12	.03	T.								.06	.30			.01	.10		.02	1.33	.05				2.31
Bridger	Yellowstone		.07	0.2		.14															.36						.21						0.80
Broadview Exp. Stat'n	do			.08			.01			.18	T.	.01							.02		1.01			.02			.15	.42					1.90
Browning	Marias				T.	T.	.42	T.	T.															.51	.50	.42	.12	.14					2.11
Busby	Yellowstone																																
Busteed	do			.15			T.		T.	.28	T.										.34			T.			.37	.50				.03	1.67
Butte	Jefferson		.10	.50	T.	.20	T.	T.	.60	T.	.20	T.							T.	T.	.60			.10		T.	1.10	.10	T.				3.50
Canyon Ferry	Missouri					.34	.81	.03			.11	.07								.04	.52	.16		.02			.20	.13	.04				2.47
Cascade	do		.02	1.37	.34	.05	.63	T.		.01	T.								.06	T.	.43	.09		.02	.01	T.	1.04	.26	.07				4.40
Cataract Creek	Jefferson		.21		.29	.31	.04	.01		.03	.41									.31	1.08			.50	.03		1.60	.03					4.85
Chessman Reservoir	Missouri					.16	.18	T.			.12									.10	.53	.30		.16	.10	T.	.50	1.00					3.15
Chester	do			.30	.15	.02											T.	.07										1.00					1.54
Chinook	Milk River							.18		.19	T.	.10						T.	T.		.53					.56	.84	.47	T.				2.87
Chouteau	Missouri	.40																									2.20	2.30					4.90
Clear Creek	Milk River			.11	.17	.46	.20	.21			.34	.07										.56					.98	.86					3.96
Clemons	Missouri			.06	.55	.01	.77														.56			.11			1.37	2.46	.02				5.91
Columbus	Yellowstone																																
Copper	Musselshell			.12	T.	T.	.70	.07	T.		.15						.01			.35	.82			.05		.01	.50	.02	.20				3.00
Crow Agency	Big Horn						.06					.05								.09							.18	.31					0.69
Culbertson	Missouri			.96			.26	.39				.03	1.22									.79		T.	T.			.18					3.83
Cut Bank	Marias			T.			.33																				1.50	1.85	.38				4.06
Decker	Tongue			T.													T.									T.							T.
Deep Creek	Missouri					.80			.22		.28									.11	.91				.06		.41							2.79
Delphine	Musselshell			.03		.11	.65		.02	.04	.11	T.								.35	1.42	.50		.30		.03	.20	.09	.01				3.86
Denton	Missouri	T.	.20	.66	.06	.31	.93	.36			.04								T.	.25	.70	.17		T.	T.	.23	.15	1.30	.10				5.46
Dillon	Jefferson			.62	T.	.09		.04	.11	T.	.07			.01						.07	1.11				.17		.25	1.14	.01	.09			3.78
Dirty Creek	Musselshell			.02		.23	1.24			.15	.06	.02							.06		1.37	.05			.09	.01	.03	1.36	.13				4.82
Dry Creek	Missouri					.03	.65		.60	.49	.12									.36	1.22				.03		.52		.08				4.10
Dry Wolf Camp	do				.01	.40		.05		.11	.07						.35		.01	.08	.63						.30	.07	.14				2.22

TABLE 2.—*Daily precipitation for July, 1909. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana—Cont'd.																															
E. Gallatin River	Gallatin			.01		T.	T.			.20	.90	.23									.56				T.		.35	T.		.11			2.36
Ekalaka	Little Missouri			.10	.24			.90				.05									.45	.37						T.		.14			2.25
Elkhorn	Jefferson			.04	.04	.01	.02	.07		.03	.02	.07						.03		.01	.45	.50	.01	.10	.04	.01	.20	.40					2.05
Evans	Missouri																																
Fallon	Yellowstone			T.	.70			.05		T.		.32								.06		1.13			T.								4.96
Family	Marias			.15																						•	3.04	1.37	.40				
Fish Creek	Jefferson																																
Fish Tail Creek	Yellowstone		.19	.20	.05		T.			.31		.02								.37							.18	.03		.06	.15		1.56
Flathead Creek	...do																																
Forsyth	...do			1.10			.20	T.			.37	.02							.30		.50	T.			T.		T.	T.	T.				2.49
Fort Benton	Missouri			.03	.16	.19	.70	.05	.12		.70										.25			.34			.17	.23	.92				3.86
Fort Shaw	Sun River			.20	.03		.90				.03							T.			.28	T.			T.		.98	.96	.15				3.53
Foster	Big Horn							.06		.06	.22	.09							.03	.19	.11					.61	.05	.15					0.97
Garneil	Musselshell			.30	.03		.15	.15		.12	.08						.20			.24	.66	.20		.03		T.	.36	.54	.03				3.09
Glendive	Yellowstone				.78			.10		.21	T.	1.64	.18					T.		.06	•	1.20			T.		T.	T.	T.				4.17
Goldbutte	Marias			1.00			.60	.15		.10	T.	.01		T.												T.	.92	.55	.15				3.48
Graham	Powder			.90							.50									T.	.15												1.55
Grayling	Madison		.31	.44	.08	.23															.04			.06			.27	.28	.03				1.74
Great Falls	Missouri		.06	.32	.67		.91	T.			.12							T.			.16	.14		.11	.61	.14	1.03	.67	.51				5.45
Half Moon Pass	Musselshell																																
Half Way House	Missouri			.09		.53	.07		.15		.63	.08								.59	1.10			.09	.05		.32	.03	.19			.02	3.94
Harlowton	Musselshell			T.		.57					T.											1.05				T.	T.	.82					2.44
Hassel	Missouri			.24	.32	.18	.75	.03	.12	.12	.04	.03								T.	.96	.40		T.			.60	.05					3.84
Havre	Milk River			.15		.52	.20	.02		.81	.03	T.	T.	.01			T.	.10			.07	.05				.06	.50	1.31	.05				3.88
Helena	Missouri			.05	.10	.22	T.	T.	T.		.08	T.						T.		.09	.50		T.	.02	T.	T.	.45	.33	T.				1.84
Highwood	...do			1.02	•	.48	.90	.11			.13						T.	T.		T.	.44	.50			.22	.02	.26	.65	.55	.01			5.29
Homepark	Jefferson			.40		.18			.11		.18									.81				.17			.26	.22	.05				2.38
Huntley	Yellowstone																					.28					.23	.82					1.33
Jones Canyon	Gallatin			.10					.20	.10	1.00					.08	.08			.10	.02			.10	T.	.02	.35	.10	.10	T.	.10		2.45
Jordan	Missouri			1.45				1.54					.05					.10			.24	.59					.65	.09					4.71
Kleinsmith Creek	Jefferson			T.	.11		.31			.39	.02	.03								.05	.77			.15		.21	.30	.47					2.81
Lewistown	Missouri	.67		.42			.24	T.												T.	.09	1.45					.33	.88	.12				4.20
Livingston	Yellowstone			.05					.30	.06	.29	.05									.41				T.		.48	.04		T.		T.	1.68
Lodge Pole Creek	...do			.70	.10					.30	.35			T.							.40			T.	T.					T.	T.	T.	1.85
Lone Tree	Missouri		1.78	2.70		.75					.20										.20	.67				.30		2.05	.10				8.75
Lost Horse Creek	Musselshell			.06	.29	.09	.40	T.	T.	.30	.11	T.					T.		T.	T.	.47	.07		.12	.01	.19	.06	.05	.04		T.	0.1	2.27
Lubec	Marias																																
Malta	Milk River			.28				.18			T.	.01					T.		.03			.45				T.	.01	.03	.26				1.25
Meadow Creek	Madison																																
Melstone	Musselshell			.10				.31		.04	.40										.80	.31					.22	.17					2.35
Mildred	Yellowstone			.07			.35				.57		T.								.62				.06			T.					1.67
Miles City	...do			.78				.04			.61	.01								.02	.60	.33			.06		T.	.18					2.63
Mill Creek	...do										.18	.10									.25						.01		.21				0.75
Moore	Missouri			.03			.55				T.							T.		T.	.85	.30					.33	.88	.12				3.06
Mudd Creek	Jefferson			T.	.15	T.	.16	.03		.18	.02	.08									T.	.34	.10					1.44	.17				2.67
Norris	Madison			.04	.01		T.		T.	T.	.60	.20	T.																				2.34
Nye	Yellowstone		.01	.53	.16					.18	T.	.15									.38			.21	.08	.01	.42	.03				.03	2.19
Olsen Creek	Jefferson		.05	.25			.25				.14	T.								.16	.63			.28			.55	.68	.04				3.03
Pipestone Pass	...do		.07	.16	.40	.21		.02	.07	.09	.11						T.		T.	T.	1.15	.02		.13			.12	.84	T.				3.39
Poplar	Missouri				.35			.51				.14	.40									.68					T.		T.				2.08
Raymond	...do			.20	.10		.50	.70			T.	T.												T.		.55	1.45	2.00	.65				6.15
Reber's Ranch	Yellowstone																																
Red Lodge	...do		.25	.11		.03			T.	T.	.08									.04	.14				T.		.40	.03		T.			1.08
Reese Creek	Gallatin			.05						.13	.58										.63	.10		.05			.54	.05	.12				2.25
Renova	Jefferson			.03	.35	.17	.15			.14	.40							T.		.05	.85	.05		T.	.13		.12	.68	.04		T.		3.16
Rimini	Missouri			.01		.30	.49				.05	.29									.71			.14	.26		.03	1.32					3.60
Ryegate	Yellowstone									.13											.30			.05			.27	1.12	.08	.06			2.01
Sedan	...do			.03			.20		T.	.30	.30	.05									.48	.07		.32	T.		.47	.03	.09	.10			2.44
Springbrook	...do				1.21		T.				T.	.12	.23					.40	T.			1.02					T.	.40	T.				3.38
Stearns	Missouri			.03	.01		1.74	T.			.01	T.								.24							.66	2.45					5.14
Tokna	Yellowstone				.40	.05	T.	T.				.19						.29		.21		.55											1.69
Toston	Missouri				.53	.26			.07	.08	.19	.06					T.					1.10					.46	T.				T.	2.75
Townsend	...do				.33	.94	.55			.10	.03											1.00						1.20					4.15
Trail Creek	Yellowstone			.01					.28	.50	.11	.22									.42			.01			.05	.02	.02	.01			1.65
Utica	Missouri			.20	1.24	.45	.04		T.	T.							.70			T.	.40	.35					.50	.98	.11				4.97
Valentine	Musselshell		.03	.11				.01			.03		T.					.04	T.		.70	.83					.30	.04	.24			.02	2.35
Virginia City	Jefferson & Madison		.18	.21		.03	.05			.04	.23	.02									.65			.06		.04	.10	.13	.02	.05			1.81
Wall Rock Mountain	Missouri					.03				.15	.24	.40								.31	.62	.34			T.	T.	.50	.12			T.		2.71
Warm Springs Creek	Madison		.07	.14	.08	.06	.06		.27		.33	.03									.55			.13	.02		.16	.16	.47	.02	.02	T.	2.57
W. Rosebud Creek	Yellowstone		.10	.22					.10	.30										.03	.12			.06			.14	.19		.03	.03		1.32
Willow Creek	...do									•	.70										.41						.56		.03	.03			1.73
Wolf Creek	Missouri			.42		.86															.31					.08	.24	.35					2.26
Wolf Point	...do	.05			.34			.41	.06			.29	.48									.39					.20						2.22
Woodville	Jefferson			.04	.16	.11	.10	T.		.10	.25									.10	.60			.09	.11	.08	.21	.83	.06				2.84
North Dakota.																																	
Aplin	Knife	T.			.15			.17				T.	T.							T.	T.	.32			.01			.28	.15				1.08
Beach	Little Missouri						.88				.02	.08	.54							.08	.16	.52					.03	.03	.05				2.36
Berlin	James				.10	.18	.06	.08	.28			.48	.45		.04					1.12	2.40								.33				5.52
Berthold Agency	Missouri		T.	.22		T.		.48				.06	.03	.01	T.			.01		T.	.10			.09			.18	T.					1.18
Bismarck	...do				.16	T.	.01	.23				.05	.02	.36					T.	T.	.10	.54			.35			.58	.01					2.41
Broncho	Knife		T.	T.	T.		T.	.01				.01	T.	T.								.02					.30	.07					0.41
Buford	Missouri							.40					.50					.12			.63								.03				1.68
Coal Harbor	...do																																
Dickinson	Heart	.03			.49	T.	T.	.03	.01		T.	.08	.05	.67						.02		.25	T.				.01	.24	.01				1.89
Edgely	James				.15		.16		.04		.28	.06		.05							.18	1.86						.26					3.04
Ellendale	...do	.67			.68	.10	.04	T.	.12			.30	.04	.04	.05							.46				10		.08					2.68
Epping	Missouri				.09			.14	.24				.04	.29	.06			.15									.18	.13	.12				1.44
Fullerton	James				.29	.22	.17	T.				.46		.22							2.04	1.49	T.						.33				5.22
Haley	Grand			.07	.43	.03	.03	.06	.45			.08	.12					T.	T.	T.		.37					.04	.12				.13	1.93
Hettinger	Cannon Ball																																
Howard	Missouri	T.		T.	T.	T.	T.	.25			.01	.33	T.	T.				T.	T.		.01	T.			T.		.10	.04					0.74
Jamestown	James	.11					.11				.65	.25	.35	.02							.93	.52			.05		.75	.03		1.43			5.20
Kulm	...do																																
Lamoine	Missouri					.19					.96	T.			.02		T.			T.	1.28			.24			1.08						3.77
Lamoure	James				.08		.15		.10			.82	.08	.10						.12	1.57	.34			.06			.24					3.66
Manfred	...do								.80		.35		T.	.08							.53			.15			T.	.87					2.78
Marmarth	Little Missouri			.02	.75	T.		.85		.01	.04	.18	.03	T.					T.		.20		.02			.02	.02			.06		2.20
Marstonmoor	James				T.		T.	T.			2.50		T.	T.				T.	T.	T.	.40	1.38	T.			T.			1.63	T.			5.91
Medina	...do			T.	T.		T.				1.20	.30	T.						T.								1.60						3.10
Medora	Little Missouri			T.				.50		.13	.20							.20				1.90			T.			.05					2.98
Melville	James					.03	T.				.63			T.					1.03		.66						.23	.08					2.66
Mott	Cannon Ball				2.26	.02		.37		T.		.05	.14	.08							.86					.18				.19			4.33
Napoleon	Missouri					.13			.10			.14	T.	.17							.35	1.15			.42			.16						2.62
New England	Cannon Ball				.18	T.		.18					.45							.19		.18			.18		1.25		.18				2.78

TABLE 2.—*Daily precipitation for July, 1909. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota—Cont'd.																																	
New Salem	Heart				.41	T.	T.	.08	.12			T.	.02	.35						.04		1.90			.03				.53				3.48
Orange	Cannon Ball		.11		.68		.02	.78				.18		07						.07		.11			.16				.33				2.51
Palermo	Missouri																																
Steele	do				.18	T.	.05	T.				.20	T.	T.	.13						.33	1.45				.14		1.15	.47				4.10
Swartwood	Grand			.18	.28	.02	.01	.03	.12			.15	.03	.05						.02	.01	.37			T.			.16	.27		.37		2.07
Washburn	Missouri		T.		.25	T.	T.	.66					.01	T.	.03					.01		.47			.30	T.			.20		T.		1.93
Williston	do			.03	.01		.05	.53				.06	.13					.01				.70					.01	.04				1.57
Wishek	do	.20			.35	.10						.60	.20		.62						1.07	2.05				.25			.70				6.14
South Dakota.																																	
Aberdeen	James	.40			1.30	.20	.11		.20	.05	.25	T.	.20	.05	.50							.60				.60						.05	4.51
Academy	Missouri				.18	T.		T.		.05		.92			T.							.12								.93			2.20
Alexandria	James			T.	.72	T.				T.	.28				.53														.37			1.90
Andover	do								.06	.03					.20							.06				.90					.05	
Ardmore	Cheyenne				.90	.05	T.				.20	.23						.18		.30		.08					.15						2.09
Armour	Missouri			.10	.15	.02	.01	.05	.06	.09	1.00			.15								.05								1.09			2.77
Ashcroft	Little Missouri			.50		.03		.86			.56										1.11						.07	.79	T.	T.			3.92
Belle Fourche	Cheyenne				.24	.02				.41	.16	.01								.03	.24	.03	.20	T.		.03		.01				.06	1.44
Bowdle	Missouri	1.20			.87	.08			.35	.07		T.	.07		.38						T.	.35				.23						.66	4.26
Brookings	Big Sioux	.02			1.25	.37				.07		.13			.20															.40			2.44
Burke	Missouri					.05	.10			1.80		1.50													T.								3.45
Canton	Big Sioux		.07		1.12	.05	.32	.03		1.55		T.			.36							T.				.07				.12			3.69
Cascade Springs	Cheyenne				.58						.87																	T.				.09	1.54
Castlewood	Big Sioux	.44			2.45	.02	T.	T.	.17	.03		.02	.02	T.	.10			T.												.17			3.42
Centerville	Missouri			.07	.84	.51	.04	.07	.02	.73	.47	.64			.80							.03				.26				T.	.53	.15	5.16
Chamberlain	do				.41	.20						.32		.15				.32														T.	1.40
Clark	James	.62			2.02	.03	T.		.92	.14		.18	.12	.02	.17			.05						.08		.44					.36			5.15
Clear Lake	Big Sioux				1.71	T.							T.	.26																	.40			2.37
Clifton	Missouri																																
Cottonwood	do				.08		T.	T.		1.35	2.18	.15							.42							T.							4.18
Daviston	do			.28	.60	.02	.01	.42	.20			.14		.27						T.	.06	.23			.40									2.63
Deadwood	Cheyenne			.10	.60	.05				.65								.25	.10	1.00	1.55	.35			.05									4.70
De Smet	James				1.15					T.		T.	T.		.40											T.					.25			1.80
Dowling	Cheyenne			.07	.05	.08				.45																								0.65
Dumont	do				.51					.63		.04							.02	1.71		.25		.26			.10					.05	3.57
Elk Point	Missouri					1.70	T.	T.	T.	1.25	2.08	1.10			.50							T.				.50					T.			7.13
Ellingson	do																																
Englewood	Cheyenne			.09	.21	T.				1.40	T.	.20						.08	T.	1.22	.47						.12						3.79
Eureka	Missouri	.05			.59			T.	.39	.07		.03	T.		.05						.06	.51				.11			.25		.05		2.16
Fairfax	do				.70	.50				1.95		1.50														.10					.10		4.85
Farmingdale	Cheyenne																																
Faulkton	James	1.53			2.80	.12		.01	.63	.14		T.	.16		.15						T.	.12				.08					.45			6.19
Flandreau	Big Sioux				1.27	.06				.06		.37			.15							.08				.04					.52	T.		2.53
Forestburg	James			T.	.65						.30	.35	T.		.38							T.									.15			1.83
Fort Meade	Cheyenne			.08	.44	.06	T.			.60	.04	.02						.05		.75	1.00	.15			T.									3.19
Frederick	James				.67	.21	.06		.34			2.92			.08							.15			.18									4.51
Gannvalley	Missouri			T.	.10			.15		.10	.37			.20				T.							T.						1.10			2.02
Greenmont	Cheyenne			.89	.81	.02				.59	.04	T.							1.05	.19	.96	.38			.06		T.							4.99
Greenwood	Missouri				.89	.04				3.24	.70																					.44		5.31
Hardy Ranger Station	Cheyenne				.69				.10										T.	1.20	.22	.42												2.63
Hermosa	do		.05	.92	.04	T.	.52			.14	.16	1.28																T.				T.		3.11
Highmore	Missouri	.05		T.	.15	.20	T.	T.	.40	.29		.10	T.		.36				.07												.19			1.81
Hill City	Cheyenne				.42		.03				.15					.08		.44	.01		.58				.50							.21		2.42
Howard	Big Sioux				1.37	.60	.10		T.	.70		.70	.10		.16							T.									.35			4.08
Howell	James	1.71		.01	1.32	.30	T.	T.	.53	.23		.22	.08		.08						.16				.15						.83			5.62
Huron	do	.01		.01	.64	.08	.02	T.	.10	.06	.05	.27	.02		.24			.09							T.						.83			2.42
Ipswich	do	.75		T.	.85	.02	T.	T.	.50						.01							.28				.01					T.			2.42
Kadoka	White				.15					1.10	.30	.10																						1.91
Kennebec	Missouri					.11	T.	T.			T.	.26																			.04			0.41
Kidder	James				.46			.27				.75										.80												2.28
Kimball	Missouri				.18		T.	T.			.03	.52			.59							.07	.28			.23					.47	.17		2.54
La Delle	James				2.20	T.	T.	.45	T.	.22		1.15									T.					.52					.20			4.74
Lead	Cheyenne			.18	.61	.37			.70	.04		.02						.31	.11	1.22	.36			.04		.05					T.		4.01
Lemmon	Missouri	T.		.28	.67	.10	T.	T.	.52			.22	T.	.08								.19			.70			.21	.02				2.99
Leslie	Cheyenne																																
Marion	Missouri			.26	.77	T.	.10	T.	T.	.15	.65		.56													.05					.17			2.71
Mellette	James	.45			1.84	.05			.84	.25		.05	T.		.05							.10				.60		T.			.20			4.43
Menno	do			.53	.29		.10			.40	.92				.90										T.					.12			3.26
Mitchell	James				.45				.05	.10		.15			.73															.70	.10		2.28
Murdo	White				.06					.65	.28																						0.99
Orman	Cheyenne				.31	.02				.52	.11	.01									19	.13						.04					1.33
Ottumwa	Missouri									.63	.06																						0.69
Pierre	do				.23			T.		.26	.07		T.	.10	.06				T.			.01											0.73
Plankinton	James	T.			.18	.02	.03	T.	T.	T.	.49				.01																.25	.06		2.04
Pollock	Missouri				.80																	2.00				.10			.70				3.60
Rapid City	Cheyenne			.17	.28	.05	.03		T.	.19	.27	T.						.52		.28	T.										.01			1.80
Redfield	James	.35			2.40	.10		.03	.55	T.			.10	.05	.20							.55				.34						.15		4.82
Rosebud	White			T.	.35	T.		T.				1.00	T.									.02						.37			.30		2.04
Roslyn	Big Sioux	.43			.93				.32	.13		.02	T.		.17							.05				.83								2.88
Running Water	Missouri					.25				.50	1.50	.72																						2.97
Savoy	Cheyenne				.60	.02				.58	.08	.09							.27		.79	.56			.38			.02						3.39
Selby	Missouri				.93	.05					.10	T.	T.	.53				.10			.40				.37					.30			2.78
Sioux Falls	Big Sioux				2.60	T.	.33	T.		T.		1.30	T.		.20							.10								.15			4.78
Spearfish	Cheyenne																																
Stephan	Missouri			T.	.05	.20			.10	.18				.40				T.	T.		T.				.14					.88			1.95
Tama	Cheyenne			.07	.44			.22		.26	T.		.01						T.	T.	.90	.42			.12		T.						2.44
Vale	do				.39	.03				.61											.99	.12			.02								2.16
Van Metre	Missouri																					T.				.50				.33	.28		7.15
Vermilion	do			.02	1.84	.12	.05	.05		1.22	.60	1.04			1.10																	.05		2.02
Water's Ranch	Cheyenne				.46					.79		.02							.05	.46	.11				.07		.01						3.38
Watertown	Big Sioux	.02		**	1.42			**	1.50		**	.42		**	.02																T.			2.49
Wentworth	do				1.51	.09						.28																			.61			2.06
Wessington Springs	James			.24	.24	.07	.07	.04		.01		.50	.01		.55						.33											T.		
White Lake	do																																
Yankton	Missouri				.62	.08	.02	.02		1.80	1.04	.18			.80							T.				.07			.05		.56			5.24
Minnesota.																																	
Pipestone	Big Sioux				.98	.42	.02				.13	.50		.25								.26									.27			2.83
Colorado.																																	
Akron	Republican						.03	1.38	.33															.04	.05		.03			.12				1.98
Alma	South Platte		.76	.82	.50	.05	.61								.10	.06	.02	.01		.30	.08	.03	.14	.31	.32	.03		.13		.03				4.30
Arriba	Republican					.83	.13				.46												T.		T.	.16			.58		.92			3.08
Auldhurst	South Platte																																
Barker	do			.02	.87	.28	.15									.07				.30	.35	.05		.50		.25		.12	.34				3.30
Boreas	do			.66	.28	.07		.11	.22						.18				.25	.53	.13			.14	.24		.21		.32				3.34
Boulder	do			T.	.14	.68	.43							T.						.04	.70		.06	.79			.10			.24				3.18
Burlington	Republican					.18		.30			1.10				.10		.12					T.		.05	.04	.30	T.				.45			2.64

TABLE 2.—*Daily precipitation for July, 1909. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado—Cont'd.																																	
Cassells	South Platte														.04		T.				.11		T.	.45	.05					11			1.69
Castle Rock	do			T.	.21	.12		T.	.60		T.				.04		T.			T.	.11		T.	.45	.05					11			1.69
Cheesman	do			.15	T.	.05	T.	.15	.12	T.					.03	.17	T.			.20	T.	T.	.22	.22	.12		T.			.04	.10	T.	1.57
Cheyenne Wells	Smoky Hill				.62	1.14		.75						.37			T.							.78		.21		.51		.34	T.	4.72
Como	South Platte		.26	.13	.16	.45	1.09								.26							T.	.02	.03	.05			.27		T.			2.72
Cope	Republican				1.01	.55		.25		1.49			.25											.15	.40				.13		.02		4.25
Corona	South Platte					.48														.06	.06	.36		.12	.40	.08		.16					1.72
Denver	do		1.12	1.44	.15	.04		.93	T.					T.		T.		.01	T.	T.	.12		.16	T.	.01		.12	T.	.02	.05			4.17
Edgewater	do			.31	.92	.90	.20	.76						T.			.11				.07			.14	.01		.15	.01	.06	.01			3.65
Estes P'k. Fish H'y	do			.04	.50	.08								.32	T.	T.	T.	T.	T.		.02	.14		.09	.21	.32	.04						1.76
Fort Collins	do			.10	.07	.90	T.	.04		.01	T.			.01		T.					.73			.03	.03		.06						1.98
Fort Morgan	do				.10	.03			.35	.10	T.													.22	.03				.10	.11			1.04
Frances	do			.10	**	.34	.25								.05	T.				.10	.21		T.	.15	.06	.04	.25			.43			1.98
Fry's Ranch	do	.01		.15	.27	.01								.01		.04					.25			.01	.18		.02			.03			0.98
Georgetown	do			.14	.08	.15	T.		.17					.05					.16	.25	.19		.25	.64			.86		.08				2.57
Greeley	do			T.	2.03	2.60			.07	.15				T.						.04					.01		.06		.08	.10			5.14
Hartsel	do				.60	.04								.01			T.			T.		.21	.08	.10	.06		.02			T.			1.12
Hawthorne	do				.36	.13								T.						.26	.11		T.	.11	.03		.06			.10			1.16
Holyoke (near)	do																																
Idaho Springs	do			.35	.26	.10	.05							T.		.04					.30		.15	.46			.34		**	.15			2.20
Keota	do																																
Kossler	do																																
La Porte	do			.05	.50																.62						.07						1.24
Le Roy (near)	do							.12	.05	.15		.26					.41				.05			T.	T.			T.	.01	T.			1.05
Longmont	do			.03	.02	.08		.02		.03				T.							.14			T.	.12		.11			.18			0.73
Long's Peak (near)	do			.50	2.40	.01								.17	.02				.15	.06		.27		.15	.21	.05							3.99
Moraine	do																																
Platte Canon	do		.10	.12	.52		.32		.12	.04														.35					.20	.16			1.94
St. Cloud	do																																
Sedgwick	do											.76													.10	.10				.55			1.51
Sill Mine	do	T.		.14	.12				T.	.95				.10	.11	.06		T.	.18	.17	.45	T.	.85	.30	.40		.30	.06		.50			4.69
Spicer (near)	North Platte																																
Waterdale	South Platte			.17	.07	.64	T.							.08	T.						.68			.05	.29		.09						2.07
Westlake	do			.05	.53	T.			1.94	.13				T.		T.			.02	T.	.04			T.			.22			.48			3.41
Wray	Republican				**	1.03		T.	.04	.10						.26					.03				.25			T.			.04		1.75
Yuma	do				.83			2.42	.12	.57	.06					.62									1.10								5.72
Nebraska.																																	
Ainsworth	Niobrara			.01	.38	.06		.02		1.72		1.60			.02										T.	.26				T.	T.		4.07
Alliance	North Platte			T.			T.	T.		T.	.40														.01		.05	.02		T.	.03		0.51
Alma	Republican					1.69		.08	.01		.03	.87	.03				.03					T.			.49	.26		.02			.05	T.	3.56
Anoka	Niobrara					.80				1.80		.50														.14					.55		3.79
Ashland	Platte					.04	.96	.20	T.	.05	.03		.22	.06		T.	.61									.61	.03	.01			.02	.49		3.33
Atkinson	Elkhorn			.10		T.	T.	T.		T.	.90	.45			T.											.70						.20		2.35
Auburn	Little Nemaha					3.52	1.27	.03		.11		.21														.08	.54		.02		.18	.39		6.35
Beatrice	Blue			.20	.57	5.15	.70	.41			.31	.16	.02													.40	T.	.01		.08	.16			8.17
Beaver City	Republican					.25					.08	.93	.06				.02								.70			T.	T.	.55			2.59
Bellevue	Missouri				.10	1.10	1.01	.01	.01	.01									.10							.54						.25	3.12
Blair	do				.73	.50	4.33	.09	.05	T.	.65	.09			.13											1.40	T.							7.97
Bloomfield	do				.04	.01				1.00	.20	.55			.15															.87			2.82
Blue Hill	Republican	.41				.53	1.40	.30			.26	.85														.50			.10		1.80		6.15
Bridgeport	North Platte				T.	T.		1.20		.02	.80											T.			T.			.30			.30		2.62
Brokenbow	Loup	.97	.95	.03	.97	.95	.03				.08	2.41			.03		.19									.62	.02	.01			.20	.42		6.93
Burge	Niobrara				.16						.60																	.35						1.11
Burwell	Loup												.65	T.		.28										.25								1.68
Callaway	do									.10	1.53	1.70					.20									.14						.26		3.93
Cambridge	Republican					T.	T.	T.	T.		T.	1.03					.36					T.			T.	.19		T.	.19		.70	.07		2.54
Canton (near)	North Platte				.02		T.	T.		1.15															.01			.17		T.				1.35
Columbus	Loup				.20	1.70	2.24		T.		.46	.97	.18		.07		.53					.01				.80	.27	.18				.32		7.93
Creighton	Missouri				.13	.04	.05	.02	.01	.61		.95			.02											.08					.53			2.44
Crete	Blue				**	3.47	.39	.02		.90			.05													.38	.01	.06			.05			5.33
Culbertson	Republican										.01	.65										T.				.10	.86		T.	.05	.03	.05		1.75
Curtis	do										12	1.46																	T.		.10		1.68
David City	Blue			T.	2.21	.64	1.08			T.		.32	.20		T.							T.				1.25	.03	.16			T.	.11		6.00
Dawson	Great Nemaha				.18	1.14	2.64	.30	.02	.01	.46	.60	.24											1.98		.54	.02	.04	T.		.15	.02		8.34
Duff	Loup								48	1.12	1.09					.09									.34					.17	.35	.52	4.16
Elsie	Republican	.10	T.								.40									.30						.10					.09	.47		1.46
Enderslake	Loup				.07				.05	.07						.03									.03					.04	.05		0.34
Ewing	Elkhorn					.88	.33			.50		.67					1.11									.38						.64		4.51
Fairbury	Blue				1.75	1.68	.28	.03		.48	.30	.07										T.			.36	T.	T.	.10		.56	.21			5.82
Fairmont	do	.04			.47	3.70	.32	T.			.13	.60	.09													.33	.03	.04	.08		.04	.33		6.20
Fort Robinson	Niobrara				.03	.01					.02	.09	.01				.21									T.		T.						0.37
Franklin	Republican				.58		.66	.37			.95	T.	.30				.03								.65		T.	T.	T.		1.10			4.64
Fremont	Platte				.85	.38	3.22		.06		T.	.60	.20		T.		T.									1.36	.05				.10	.32		7.14
Fullerton	Loup				1.01	1.20	1.10			.30	.40	1.04	.24													1.32					.25	.65		7.51
Geneva	Blue			.47	.34	3.82	.57	T.	T.	.35		.92	.02				T.					T.		T.		.34	T.	.09			.11	.02		7.05
Gordon	Niobrara			.02				.30			.34					.02					.02				.07								0.77
Gosper	Republican								T.	T.	.08	1.60					.16								.33		T.	T.	.26			.05		2.48
Gothenburg	Platte	.10				.10				1.40	.35	1.32					.36								T.							.10		3.73
Grand Island	do				.04	1.48	.03		.03		.08	1.34	.25													.87					.11	.12		4.35
Grant	Republican					.81		T.		T.	.73														.86					.15	.08		2.63
Greeley	Loup				1.22	.36						.11	.07			.16									.46	.55	.06	.01			.87	.14		5.01
Halsey	do			.60		.05				1.00	.20															.05				.07	.06	1.50	3.53
Hartington	Missouri				.22	1.20	T.	.12	T.		.95	.32			.22											.12	T.		T.		.08	1.46		4.69
Harvard	Blue				.27	1.86	.28			.04	.12	.98	.05												.62	.04		.02		.06		.35		4.69
Hastings	do					.83	.13				.06	.80						.67							.52			.03			.35		3.39
Hayes Center	Republican			.34	.01					.20														.05					T.	.10		0.70
Hay Springs	Niobrara				.12			1.00			.54					.12						T.		.10						.15		2.03
Hebron	Blue				.03	2.41	.95	.08		.25		.38	.10									T.		T.	.16		.10			.24			4.70
Holdrege	Republican	.06			1.30	.33					.20	.96					.21								.60								3.66
Hooper	Elkhorn				.14	.35	2.72	T.			.16	.08	.13		.08										1.53	.04				.59			5.82
Imperial	Republican			T.		.30	T.	T.		T.		.42					.16					T.		T.						.66	.05		1.59
Kearney	Platte								T.	.63	.90	1.03					.21								.88	T.	T.	T.					3.65
Kimball	South Platte					.16	.11		T.		.38					.15		T.		.15				.03		.78			T.				1.76
Kirkwood	Niobrara				.32					.82	.10	.67					.27								.36					.22			2.76
Kowanda	North Platte			.03							.23														.23		.07		.03				0.59
Lexington	Platte					.08				1.05	.33	1.10					.35								.14	.13			.12			.31		3.61
Lincoln	do			T.	2.44	.89	.19	T.	T.	.25		.23	.19		T.							T.				.51	T.	T.			.17			4.87
Loup	Loup																																
Loyal	Loup			T.	T.	T.				T.	.70	.70					.90								.50							.50		3.30
Lynch	Niobrara				.29	.30				2.20	.85																			.40			4.04
McCook	Republican											.68													.09	.42							1.19
Madison	Elkhorn				T.	.38	.90			.15			T.		.10		1.33									.34		T.			.50	.62		4.32
Marquette	Platte				.72	2.28	.07			.11	.05	.51	.11				T.					.01			1.10		T.			.02	.15		5.13
Mason City	Loup			1.73						.32	.70																		.37	.49	1.05		4.66
Minden	Blue		1.37	.39					.02	.25	.46	.65	.03				.06								.40	.32		.02		T.	T.	.03		4.00

TABLE 2.—*Daily precipitation for July, 1909. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nebraska—Cont'd.																																	
Nebraska City	Missouri				2.00	.23	T.	T.		T.		.10	.15													.48					.55	.29	4.01
Norfolk	Elkhorn				T.	.14	1.01	T.	T.	.65		1.04		.31			.23				T.				.25					.30	.78		4.71
North Loup	Loup				.50	.11	.55			.15	.50	1.75	T.				.08									1.35	T.	T.	T.		.68	.53	6.20
North Platte	Platte					.11		T.	T.	2.35	.77	.14				.28	.19					T.			.07	.01		T.		1.18	.10	.01	5.21
Oakdale	Elkhorn				T.	.41	.03		.02	.37	1.03	.01			.12		.25					T.				.11		T.		T.	1.16	.08	3.59
Omaha	Missouri				.53	1.63	.27	.01	T.	.16		.01	.02		.28			.51				T.				.76	T.	T.			.22		4.40
Ord	Loup					.10	.04			.65	.30	.80	.03				.18									.93					1.10	.84	4.97
Pawnee City	Great Nemaha			T.	T.	1.53	2.20	.30			.45	.55	.22										1.50			.45					.20	.21	7.61
Plymouth	Blue			.50	**	5.55	1.09	.07		.57		.25	.05													.35		.05			.15		8.63
Purdum	Loup			T.	1.00			T.		.04	.81	.45					.07									.05		T.			T.	.62	3.04
Ravenna	do.				.74	.01	.02	.02		.34	.37	1.06	.07												.08	1.49	T.	.02	.01		.03	1.21	5.47
Redcloud	Republican					.86	1.87	.09		.31	.17	1.31	.24									T.			.12	.30		.04			.42		5.73
St. Libory	Loup			1.74	2.80					.51	1.50	.25														1.70				.30	.36	.80	9.96
St. Paul	do.				1.79	.06				1.03	.36	1.30														1.49					.43	.30	6.76
Santee	Missouri			T.	.32	.54	.12	.03	.30		.78				.02							T.				T.					.82	T.	2.93
Sargent	Loup				T.	.25	T.	T.	T.		T.	2.90	T.				T.									.70	T.	T.			1.90		5.75
Schuyler	Platte					.50	2.75	.10			.37	.90	.05				.15									1.27	.27					.50	6.86
Scottsbluff	North Platte				T.	T.	.19	.12			.56					.39					.04			T.			.23			1.00		2.53
Seward	Blue				3.50	.45					.55														.65	.05	T.	.22			.25	.10	5.77
Sheridan	Loup				.80	1.20		.10		.10	.35	1.05					.30					T.			1.00					.40	.60	5.90
Sidney	North Platte					.03				.55		.36					.28					.09			.52			.09				1.92
Springview	Noibrara			T.	.30	.45	.03			.02	.23	.82														T.			T.		.10	.13	2.08
Stanton	Elkhorn				.05	.70	.41				.26	1.17				.22									.30		.09		.19		.90	4.29
Stratton	Republican										.05	.60			.05										.12					.12		0.94
Superior	do.																															
Tecumseh	Great Nemaha					.6.00	.82				.23	.17	.03										.10			.53		.05		.09		8.02
Tekamah	Missouri					.50	2.17	.03	.03		.31	.77	.11		T.		T.								1.35	.05					1.10	6.42
Turlington	Little Nemaha					2.75	.19	.02	.01	.04		.05	.13												.56	.03	T.		.57	.33		5.68
Valentine	Niobrara				.22						.59			.01	T.							T.					.80				T.	1.62
Wahoo	Platte				1.54	.23					.35	.28			2.32										1.07		.10			.70		6.67
Wakefield	Elkhorn				.41	.25	.39	T.		.21	.18	.60			.43							.18				.40		.06			.88		3.99
Walthill	Missouri													.10								.07			.70				.10	.30		1.27
Watertown	Platte						.15		.02	.48	.82	.83	.05				.17									.98							3.50
Wauneta	Republican									.08	.60					.10					.10									15		1.03
Weepingwater	Missouri					1.05	.24	.01	T.	T.	.05	T.	.23		T.	.16										.70	.02	T.		.02		.48	2.96
Westpoint	Elkhorn				.15	.53	.87	.20	T.		.27	.84			.15										1.31		T.	T.			.44	4.76
Wisner	Elkhorn																															
York	Blue				5.24	1.66	.09	T.		.11	T.	.58	T.		.42							T.				.67	T.	.08		T.	.27	9.12
Iowa.																																
Afton	Missouri					1.85	1.25	.87	.05				.12		.04	.02			T.				.12			.35	.09	.45			T.		5.21
Allerton	Chariton				1.63	1.90	6.50	.46	T.		T.	T.	.15		T.								.09			.40	.40		.32		.01		11.86
Alta	Little Sioux			.40	.26	1.24	.25	.15	.02		1.68	.10	.30		.14	.13			.05				.10				.09				.35	.60	5.86
Alta (near)	do.			.83	1.25	.40	.30	.06	.03	.27	1.54	1.32			.25							.03				.09	.03				1.90	.07	8.37
Alton	Floyd			.39	1.31	.13	.06	T.	T.	.30	2.70	.77			.53							T.				.02	T.				.26	.14	6.61
Atlantic	Nishnabotna				.05	.15	1.93		.05		T.	.01	.03		T.	.17			T.							.36	.05	.11			2.40	.69	6.00
Audubon	do.				.54	.33	2.65	.02	.04				.14		.69				.73			T.				.53	.05		.05			1.56	7.33
Bedford	Missouri					2.90	1.95	.22	.09		.11	.13	.08										.73			.63	.18	.03		.13		.11	7.29
Chariton	Chariton				.12	2.70	.93	.98	T.	T.			T.		T.								.70			T.	.36		.32		T.		6.11
Clarinda	Nodaway					1.48	2.65	.45	.03			.12	.04													T.	.58			.45		.75	1.00	7.55
Corning	do.				T.	2.11	2.83	.21	.07		T.	T.	.15			.05			.26			T.				.56	.06	T.		.40		.17	6.87
Corydon	Chariton				.33	2.82	2.28	.75					.15		.10	.01							.04			.29	.36	.15	.06		T.		7.34
Creston	Missouri	.55				1.08	2.18	.40	T.		.06			.20		.05							.04				.51	.02	T.			.07	5.16
Cumberland	Nodaway				.41	1.16	.62	.01					.06		T.				.91							.71	.33				.52		4.73
Denison	Missouri				1.07	.49	1.84		.02		.07	.36	.12		.70							T.				.28	.03		T.		T.	1.10	6.08
Elliott	Nishnabotna					1.27	5.00	.04		T.	T.	T.	.15		T.				1.44							.32	.03					.19	8.44
Greenfield	Nodaway																															
Hancock	Nishnabotna			T.	T.	.30	2.00			T.					T.	.45										.10		T.					2.85
Harlan	do.				.47	.17	2.60		.02	.01	T.	T.	.06		.34				T.							.49	.0	T.			T.	.82	5.03
Hopeville	Missouri	.02			.04	2.49	2.48	.21					.09		.02	.02							.47			.49	.13	.37	.03		.50		7.36
Inwood	Big Sioux		.07	.04	.96	.03	.02	.02	.01	.62	.75	.71			.40							.07				.08	.01				.58		4.37
Lamoni	Missouri	.04			1.80	3.50	4.05	.78	.03		.05	.01	.15		.01	.03							.14			.45	.18	.53	.02		.01		11.78
Larrabee	Little Sioux			.10	1.35		.20			1.93		.50			.34				T.			T.			.04					1.33		5.79
Le Mars	Floyd				1.06		.10	.08		1.08	1.92	1.10			.88							.13			.08					.29	.10	6.82
Lenox	Missouri					2.15	3.90	.15	.10		.20	.05	.02		T.				2.00				.40			.41	.08			.30		.10	9.86
Leon	do.	.10		T.	.56	2.30	4.15	1.10	.10		.50		.40		.10								.25			.32	.25	.05	.10		.62		10.90
Little Sioux	Little Sioux					.63	1.35	.04				.48	.05		.05											.95						.58	4.13
Logan	Missouri				.30	.24	4.42					.39	.12		.11											.87						.38	6.83
Mt. Ayr	do.				.73	3.90	3.70	.60	.05		.25	.04	.10		.06				T.				1.12			.63	.25	.55	.05		.12	.05	12.20
Odebolt	do.			.30	.45	.25	.86	.10		.15	.18	.48	.12		.12				.08							.16					1.05	1.55	5.85
Onawa	do.				.10	.50	1.68	.05	.02		.15	.30	.40		.20							.02				.65	.06				T.	.25	4.38
Pacific Junction	do.					.92	.72	T.	.03			T.	.10		T.	.45										.65	.02				T.	.24	3.13
Rock Rapids	Big Sioux			.08	.37	.24	T.	.27	T.	1.21	.32	.74			.20	.35	T.														.85	4.63
Sheldon	Floyd		.20		2.25			.05		.25	2.30	.20	**	**	**	.35						T.			T.		.10				.15	5.85
Sibley	Big Sioux				.04	.75	.05	.04	.01		1.10	.41	.26		.15	.12						.10	.01			.01		.01		T.	.15	3.21
Sioux Center	Floyd			.08	.95	.17	.05			.50	3.45	1.23			.51							.08			.03					.69		7.74
Sioux City	Missouri			T.	1.13	.04	.10	.03	T.	.89		.86			.24							.10			.42		T.			.28		4.09
Thurman	do.				T.	1.32	.41	T.	T.		.10	.05	.15		T.	.05	T.									.59	.10		.12		.56	3.45
Washta	Little Sioux			T.	2.75	.07	.23			.93	1.20	.75		T.	.16							.08			.05					.67		6.89
Woodburn	Chariton				.17	2.60	.73	.58	.02				.05		T.	T.			T.				1.05			.28	.07	T.	.48		.48		6.51
Kansas.																																
Abilene	Smoky Hill	T.			.16		1.80			2.94	.70			.16	.94							.44			.56	.16	.10	.06		.10	.10	8.22
Agricultural College	Kansas	.74				T.	.15	1.72	.10	T.	1.35	2.02	.42		.02	.12									1.04					.21	1.68	9.57
Alton	Solomon					T.	1.31		T.			.82	.05		T.								.24		.27		T.		T.			2.69
Atchison	Missouri				T.	.75	.80	4.50			.40	.75	.70										.15			.27		.02			.30		8.64
Baker	do.					.55		4.55	T.		.10	.58	.42										.53			T.	.57				1.17	.12	8.59
Beloit	Solomon	.03				.04	.41	.17			.60	2.00	.29				.04						1.89			.20			.11		.52		6.30
Blakeman	Republican									.14	.01	1.75					.02								.17				.06	.24		2.39
Blue Rapids	Blue	.34	.16			.92	.18	.65			.55	.49	.70										.11			.29	.22		T.		1.19	T.	5.80
Centralia	do.			1.45	1.58	.64	.64	.69		.29		.61	.80		.03							.07	.02		1.00		T.			1.93		9.75
Chapman	Smoky Hill					T.	**	1.50		.45	1.43	.98		.10	T.	T.						**	.35		T.	.80	T.				.30	.07	5.98
Clay Center	Republican							1.03		1.20		1.30	.50													.80		.18		.20	.10	1.45	6.76
Colby	do.					.10					1.52					.16						T.			.41	.16	.25	T.	T.	.38			2.98
Concordia	do.				.03	.49	.70	.24		.67		.65	.65									.49			.26	.11		.08		1.94	.31	1.24	7.86
Densmore	Solomon					.20						.62	.50												.23	.26				.52	.17		2.50
Dresden	Republican						.01					1.34	.14									T.				.50		.02			1.43		3.44
Ellsworth	Smoky Hill					T.	2.30	.32				.48			.26		.60						1.35		T.	.32		.15			.27		6.05
Enterprise	do.	.51				.05		1.86		1.67	1.28	.70			.12	.30							.40			.87		.70			.30		8.86
Eskridge	Kansas						2.20	3.02	.16	.20	2.36	1.14	.04		.52								T.			.60		.11		.05	.06	1.73	12.19
Farnsworth	Smoky Hill					.40	1.24	.52		.02				.61		.22									.32	.73	.47	.02			.27		4.82
Ft. Scott	Marmaton	.47				1.30		.82	.20		2.85	.21		T.	.11	.11											.95	.08	.08			.65		7.83
Frankfort	Blue				.65	.55	.20	.42		1.42	.13	.63	1.00		T.								.42			.85				.10	1.20		7.57
Garnett	Marais des Cygnes	.36		.07	.42		5.49	.07		3.98		.20		.36	.14										1.53	.11	.04		1.29			14.06
Gove	Smoky Hill					**	1.07											.07						.07		.89	.18				.09		2.37
Hanover	Blue	T.			.66	2.00	1.08	.04		.42		.32	.46					.17				.63				.35		.08			.48	.60	7.26
Harrison	Republican	T.	T.	T.	T.	T.	2.78	T.		T.	.01	.88	.28	T.		T.						.02		T.	.40	.02	.10			1.56		6.05

TABLE 2.—*Daily precipitation for July, 1909. District No. 6*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kansas—Cont'd.																																	
Hays	Smoky Hill					.25	.55	.45				1.04		.34											T.	.27		.02		.79			3.71
Hill City	Solomon					2.29					.78	.08																					
Horton	Kansas	T.				.94	.98	2.60		T.	.17	.50	.93										.21			.55		.08		1.10	.90	8.96
Hoxie	Solomon						.33			T.	1.65	.21													.12					.90		3.21
Jewell	Republican					1.15	.09	.86			2.50	.64										1.70		.16						1.11	.11	8.32
Lawrence	Kansas			.18		1.10	1.67	.04	1.01		.71	.11		.09												.75	.04			.30	.21	.26	6.47
Lebanon	Solomon			.22		1.85		.05	T.	1.22		1.07	.40									T.			.11			.40		.89	T.	6.21
Lindsborg	Smoky Hill							1.41				.29						.31				1.10			.71		.32					4.14
Manhattan	Kansas	.67	.39			.04		1.85	.09		1.27	2.15	.43		T.	.17							.08			.35	.68		T.		1.11	1.53	9.81
Mankato	Republican			.30			1.30	.10				.28	.50			.01							.22		.03	.38		.12		2.00	1.09	6.33
Minneapolis	Solomon			T.	.19	.82	.33	.43		.33	.65	1.19			.02	T.	.02					.18	.59		T.	.27		.11		.40	.09	5.62
Moran	Marmaton	.14			.45			.72	.09		2.29		T.		.30								T.			.94	.19	.77	.03	T.	.85	6.77
Norton	Republican					T.	.24	T.			T.	.66	.24												.46	.26				.47	.26		2.59
Oberlin	...do				.17			T.		T.	1.04	.02					T.								.20	.24			T.	.17	.38		2.22
Oketo	Blue	.12			.32	1.21	2.20	.09		.50		.40	.38									.16				.58		.01			.35	.13	6.45
Olathe	Kansas	.12		.45		.02		1.88	.01		.88	.39		.02												.93	.09	.05	.01	.50	.09		5.44
Osage City	Marais des Cygnes		T.					9.65	.38		2.88	.32			.61	.01	T.						T.			T.	1.72	.88			T.	2.22	18.67
Ottawa	...do	.24						5.77	.63		1.07	.15	T.		.40											1.34	.05	.26			T.	1.85	11.76
Paola	...do																																
Phillipsburg	Solomon					.09	.98	.75	.02		.06	.70	.19												.23	.21	T.	.02	T.		.19		3.44
Pleasanton	Marais des Cygnes	.05			.26			4.20	T.		2.69	T.	.09		.25	.40										1.42	.14	.78	T.			.55	10.83
Republic	Republican				1.10		2.42	.18	.10		.28	.80	.37													.48		.15		.62	.70		7.20
Russell	Smoky Hill																																
St. Francis	Republican					.10	T.				.30	.07	.24				.14							T.	1.00				.05		.52		2.42
Salina	Smoky Hill	T.			T.		.11	1.09			.14	.05	.62		.21	1.73		T.					.59			.57	T.	.16			.34	.05	5.66
Scott	...do					.09	1.30								.50		.87								.24	.86	.22				.61		4.69
Topeka	Kansas			T.	T.		3.78	1.33	.03	.66	.82	1.16	.40		.12							T.	T.			.71	T.	.01	.04		1.04	1.50	11.60
Valley Falls	...do			T.	T.	.06	1.31	2.69			.55	1.15	.50										T.			.62	1.00	.30	.06		2.60	.02	11.16
Vinland	...do							4.28			.90	.26	.02		.05											1.06	.32			.71	.33		7.93
Wakeeney	Smoky Hill						1.34	.56			.01	.84	.01		.06											.30					.31		3.43
Wallace	...do					.37	T.	.06			.27				.48		.53								.48	.12			T.		.30		2.61
Wamego	Kansas				T.		T.	2.90		.20	.50	2.25	.50		T.								T.			.85		.05			.20	2.50	9.95
Missouri.																																	
Albany‖	Grand	1.84			**	1.67	3.86	1.56	.14	**	.20	.16										**	.40			**	.80			.10	**	.20	10.93
Amoret	Osage				.15			6.45	1.79		2.63	5.90	.40		.28											1.50	.20					.95	15.25
Appleton City	...do				.10		.20	3.12	1.90		3.40				.22										.73	.27	.20					.40	10.54
Arlington‖	Gasconade							T.	1.60	.30	**	.40	**	.70	**	.34										**	.22	.12	.58	.40	.14		4.80
Arthur	Osage				.20	.28	.14	1.23	.38		2.31		.11		.20	.04										1.15	.04					.25	6.33
Avalon	Grand					1.25	1.85	1.35				.23	.38						.10							.39	.44		.18	.10	.03		6.30
Bagnell‖	Osage						**		.72	1.70		**	1.60													**	1.20	.72	.62		.90		7.46
Bethany	Grand					2.80	7.91	.52	T.			.24	.35						.42							.65	.69	.27	.16				14.01
Bolivar	Osage	.02						.26	4.87		1.61		.03	.27	.13											.38	.37	.23		.60	.14	.46	9.37
Boonville‖	Missouri						**	.98	.46		**	.52	.04	.14									**	.14		1.20		.10	.40	2.20		6.18
Brunswick	Grand							1.52	.58			2.17	T.	.87		.05										1.44		.40	T.	.25		7.28
Clinton	Osage					.11		1.98	.41		2.58		.07		.12											.40	.75	.19			.08	.12	6.81
Columbia	Missouri					.49	.59	.68			.99	.06	.25		.02	T.			.02				T.			.64	.64	.01	.01	.26	.12		4.78
Conception	...do				1.28	2.30	T.					.70	.29				T.						.06			.66	.17	T.	T.		T.	.70	6.16
Darksville	Chariton					.65		2.25				.35	.70													.35	.65				.10		5.25
El Dorado Springs	Osage	.05			T.			.31	1.96		.66		.03		.23	.27										.47	.36	T.			T.	.13	4.47
Fairport	Grand					1.80	.12	3.85	.25			.37	.27										.12			.37	.05	.07	T.	T.			7.27
Fayette	Missouri					T.	.46	.50			.18	.27	.14		T.											.42	1.09	.05	.26	T.	.60		3.97
Fulton	...do							1.15	.04		.97	.04	.02		.13				.19							.14	1.03	.03	.07		.03		3.84
Gallatin	Grand					1.03	2.50	.30	.04			.33	.33									T.			1.00		T.	.15		.05		5.73
Glasgow‖	Missouri						**	.64	.46		**	.24	.44	.38											**	.78	.34		**	.68		3.96
Grant City	...do				.14	2.16	4.92	.90	.03		.04	.07	.25										.17			.55	.27	.68	.01			.14	10.33
Harrisonville	Osage					T.		1.80	.49		.35	.43	.02	.17	.02	.10							T.			T.	1.68	.15	1.55		.12	.13	7.01
Haselhurst	Grand						2.45	2.90	.50																	.52	T.	.18	.02	T.	T.		6.57
Hermann‖	Missouri					**	.08	.70	.60		**	1.06	.02	.02	**	.10			**	.04			**	T.		**	1.04	.18	.06	T.			3.90
Houston	Gasconade			1.20	.22			.26	2.32		.43	T.	2.55	.97	.15												.11	T.					8.21
Huntsville	Charitan							2.25				1.75		1.25													.30	.25					5.80
Jefferson City‖	Missouri							.02	.30			1.07	.02			.10											.88	.15	.05		.16		2.75
Kansas City	...do			.10		.22	.26	1.51	T.	T.	.50	.33	.41		T.								T.			.82	T.	T.	.31	.32	1.47	.69	6.34
Kiddder	Grand	.50				1.00	.22	2.62	.13	.03	.01	.44		.90									.02			.75			.55	.61	.06		7.84
Lamonte	Missouri	T.						1.85	.04		.71	.08	.07	.01	.04								.05			.28	1.44	.29	.08	.11	.27	.03	5.35
Lebanon	Osage								3.53		1.18			.56	.08	.05										.33	.05	.05		.34		.10	6.27
Lexington	Missouri	.12					.02	.67	.57		.20	.05	.18	.32									T.				.82		.17	.18	2.80		6.10
Liberty	...do					.37	T.	1.66			.50	.35	1.11													.51	.23		.79	T.	.38	.06	5.96
Lockwood	Osage				.64			.03	.13		2.51	T.		.36	.31	.06									T.	.20	T.		.36		.51	5.11
Marshall	Missouri				.02			.91	.02		.13	.16	.26													.30	.85	.05	.22	.28	2.00		5.20
Marshfield	Osage	1.30						1.00	2.50		1.12	.10						.20									.35				.50	.31	7.38
Maryville	Missouri					.95	6.00	.26	.06		.15	.27	.28	.08									.74			.07	.80	.02	T.		.07	.51	10.70
Mt. Vernon	Osage					1.75				.35		2.00			.25	.25	.10									.50	.25	.25		.50		.50	6.70
Nevada	...do	.02			.24			.34	.19		1.66				.34											.85	.12	.04			T.	1.81	5.61
New Palestine	Missouri							1.00			1.15		T.		T.												1.08		.20		2.11		5.54
Oregon	...do				T.		.47		3.54	.04		.55	.31										.24			.61		.17			.24	.06	6.23
Osceola‖	Osage	1.30					**		.40	3.10	.05	.80	.53			**	.20									**	1.25				**	.35	7.98
Parkville	Missouri			.33		.10	T.	1.75			.45	.47	1.35										T.			.42	.21	.43	1.50	.15	.50	.10	7.76
Rolla	Gasconade							.06	1.30		.35	.01	T.	1.85	.19												.67	.05		.17			4.65
St. Charles	Missouri					.29	.24	2.31			T.	.77	T.						.14							1.69		.20			1.22	6.86
St. Joseph	...do					.66	.02	2.90	.10		.08	.08	.24	.66									.22			.04	.46		.04			.30	5.80
St. Louis	Mississippi					.05	.05	1.69			2.19	.08	.24	.02	.02	T.			.02				.03			T.	2.24	T.		T.	.08	.63	7.34
Sublett	Charitan					3.50	3.00	2.50				1.25	1.35													.40	.35	.25					12.60
Trenton	Grand					1.92	2.65	2.52				.18	.40													.30	.20	T.	.12		.10		8.39
Unionville‖	Charitan	.10				2.66	2.55	2.25	.64			.45	T.	.24		.02							T.				.55	.06	.40		T.		9.92
Versailles	Osage																																
Warrensburg	Missouri							1.47	.20		.20	.10	.15	.10	T.											1.40	.03	.03	1.45		1.35	.01	6.49
Warrenton‖	...do						.08	1.13	1.27			.71	.01	.04		.06											1.26	.04	.03					4.63
Warsaw	Osage	.02				.06		3.70	.61		2.50	.09	.06		.18	.02										.50	.15	.03				.08	8.00
Wheatland	...do							.23	4.05		.72			.05	.12	.30										.30	.40	.16		.05	.15	.23	6.76

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 6, Missouri Valley.*

Date.	Wyoming.																Montana.											
	Basin.		Cheyenne.		Fort Laramie.		Lander.		Newcastle.		Pathfinder.		Sheridan.		Yellowstone Park.		Billings.		Dillon.		Havre.		Helena.		Lewiston.		Malta.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1...	98	63	82	54	91	58	92	52	85	62	93	56	95	50	88	54	105	52	90	70	91	65	92	56	84	68	92	65
2...	103	63	89	54	99	60	96	53	84	60	95	52	87	52	88	57	90	62	89	71	84	67	90	62	82	59	90	66
3...	98	68	85	54	91	61	89	61	89	63	94	55	87	65	73	54	93	64	84	65	73	62	79	61	80	56	73	57
4...	96	60	76	59	85	64	74	60	80	58	80	57	79	60	80	52	82	56	83	68	84	56	82	55	86	60	82	61
5...	91	62	80	59	83	63	85	56	81	58	88	58	81	63	80	48	84	62	82	61	74	60	80	54	80	56	81	65
6...	97	64	82	55	92	62	84	56	86	63	91	62	92	57	68	48	82	62	74	50	78	61	71	54	82	52	71	58
7...	98	63	87	57	94	56	81	48	89	63	88	53	86	60	63	41	79	56	80	47	67	53	59	48	68	42	73	57
8...	90	55	84	52	91	51	87	41	88	52	90	50	78	48	74	40	81	42	78	52	76	52	74	48	70	42	76	49
9...	89	55	78	58	81	64	84	52	81	58	86	56	76	55	69	43	82	51	76	52	77	52	77	54	78	61	77	52
10...	86	54	78	53	82	61	84	48	78	56	86	53	81	52	69	42	86	47	81	50	78	55	69	51	76	47	86	55
11...	85	55	83	50	90	48	76	53	79	53	80	52	71	48	63	47	76	53	75	46	70	56	65	52	68	45	75	53
12...	86	48	81	47	87	45	81	43	76	48	81	47	73	42	68	36	80	49	78	48	74	56	74	49	79	45	72	55
13...	82	48	81	44	86	43	85	42	86	48	82	45	76	43	73	40	80	44	81	49	69	52	73	49	68	37	71	50
14...	84	52	70	51	82	50	83	44	87	50	92	47	75	43	76	39	79	39	80	47	74	47	77	46	74	42	75	45
15...	85	55	81	52	89	53	89	50	87	56	91	46	83	46	80	42	90	45	82	52	82	49	81	50	87	49	80	43
16...	98	56	84	55	90	55	95	47	91	62	93	53	93	50	85	48	102	50	86	50	94	56	95	54	94	47	95	54
17...	110	60	93	58	100	63	95	51	101	68	98	60	97	54	85	56	100	55	87	52	88	58	84	58	87	47	94	67
18...	101	60	90	55	98	59	92	68	101	78	94	59	90	60	79	55	104	54	86	55	80	61	80	56	85	43	83	66
19...	94	.....	86	55	94	61	88	65	95	64	90	62	84	65	82	47	91	58	84	50	85	48	84	51	88	49	85	55
20...	95	.....	84	59	93	61	88	57	92	65	89	63	83	55	76	46	91	59	64	44	82	59	69	50	77	41	86	59
21...	96	.....	76	54	84	59	78	47	76	55	81	49	72	48	73	42	76	49	79	48	80	57	75	46	78	47	78	56
22...	86	.....	74	45	82	44	86	46	81	44	85	53	84	45	83	43	89	48	80	51	82	53	86	50	81	44	82	51
23...	98	.....	79	57	90	53	86	57	86	59	87	61	90	54	83	51	96	51	85	50	89	54	90	61	86	51	91	57
24...	98	.....	76	57	92	62	88	59	84	55	82	62	84	58	74	49	94	56	87	53	92	58	86	55	89	53	95	62
25...	98	60	83	55	97	52	90	47	96	60	94	50	93	50	82	47	99	56	81	54	83	57	83	55	83	50	78	63
26...	96	63	81	55	74	65	80	55	86	55	72	52	73	57	63	51	72	57	82	50	66	60	72	56	63	41	78	59
27...	86	60	83	53	91	61	77	49	88	54	82	52	80	57	58	45	80	57	70	44	60	56	72	49	65	50	71	59
28...	84	48	84	53	89	48	78	42	90	56	77	53	76	46	62	43	75	46	74	41	70	54	69	49	61	42	68	52
29...	88	48	78	52	83	47	86	43	91	59	88	47	91	43	76	43	89	46	76	47	78	50	79	46	76	45	84	50
30...	95	60	86	55	94	43	89	46	94	55	89	52	87	49	79	43	91	50	81	53	82	54	84	50	85	49	85	54
31...	80	60	87	55	95	51	91	52	95	65	91	54	90	53	81	45	94	51	85	50	85	56	85	55	83	47	88	55
Mns	92.9	57.6[f]	82.0	53.9	89.3	55.6	85.7	51.3	87.2	58.1	87.4	53.9	83.5	52.5	75.3	46.4	87.5	52.5	80.6	52.3	78.9	55.9	78.6	52.6	78.8	48.6	81.1	56.5

Date.	Montana.				North Dakota.										South Dakota.													
	Miles City.		Poplar.		Berthold Agency.		Bismarck.		Dickinson.		Jamestown.		Williston.		Aberdeen.§§		Chamberlain.		Huron.		Kadoka.		Lemmon.		Pierre.		Rapid City.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	103	68	97	66	89	55	88	56	87	61	86	54	92	60	90	63	99	69	91	69	95	65	87	64	97	68	90	64
2...	89	70	84	70	84	62	74	61	84	65	81	50	75	58	86	68	104	68	92	64	97	.....	79	62	97	66	92	68
3...	86	65	79	62	73	54	76	53	72	53	76	54	77	55	75	57	90	64	76	59	80	59	67	55	78	62	77	59
4...	81	64	81	64	72	60	64	57	67	58	68	50	73	63	61	55	72	49	62	53	81	64	62	57	70	56	76	59
5...	75	62	69	58	64	57	61	55	60	56	64	53	65	59	62	55	66	55	62	53	70	55	59	53	64	55	66	58
6...	88	62	75	58	69	57	69	57	65	55	73	57	70	58	71	55	74	60	70	58	83	58	66	54	76	60	82	60
7...	86	66	81	59	68	61	69	61	69	65	71	43	69	60	70	59	74	61	70	59	91	64	70	60	79	64	92	63
8...	78	56	76	56	75	52	79	59	74	51	84	62	74	56	80	60	86	60	81	61	84	62	75	53	84	63	78	59
9...	80	59	78	62	76	51	78	57	75	51	80	42	74	52	80	58	87	65	80	62	89	56	77	56	80	61	76	55
10...	89	58	85	65	82	47	83	51	79	48	84	48	81	48	81	56	86	68	84	57	84	61	80	54	85	61	77	58
11...	76	59	74	55	77	61	77	59	74	59	74	44	75	54	77	60	84	65	79	60	77	55	72	59	78	61	74	56
12...	75	58	65	53	77	55	75	56	68	53	73	47	71	54	75	54	80	60	73	56	76	56	68	51	75	59	74	50
13...	78	52	72	47	79	57	81	59	75	46	79	53	74	51	73	54	84	70	82	58	82	53	78	50	86	59	81	53
14...	78	52	74	47	72	49	72	52	70	46	74	50	71	52	76	54	83	69	77	60	78	52	71	47	79	58	76	53
15...	84	49	80	41	78	50	78	51	76	47	75	57	75	51	79	52	87	52	79	53	83	53	75	47	83	55	82	51
16...	98	61	88	53	83	47	83	48	79	51	82	48	83	48	81	49	90	60	81	53	87	57	80	53	87	62	87	52
17...	104	68	92	69	90	60	94	63	88	60	89	73	88	65	90	53	99	64	92	62	98	66	93	53	100	68	95	63
18...	104	73	95	70	95	66	94	67	93	65	85	61	93	67	90	57	98	88	92	69	101	72	96	63	100	80	96	66
19...	88	67	89	60	86	69	90	71	84	66	96	60	85	68	98	72	101	75	94	70	99	75	86	70	102	78	86	63
20...	88	68	90	65	92	65	92	67	88	66	85	63	89	64	93	70	101	75	95	73	98	65	87	68	101	73	88	65
21...	76	56	75	53	78	59	70	58	76	53	77	55	68	55	80	67	92	70	83	66	86	58	73	58	82	65	70	55
22...	84	56	82	55	81	48	79	54	77	49	75	43	79	49	77	55	83	56	78	56	80	50	76	50	82	59	77	51
23...	97	64	92	57	85	46	84	52	82	51	80	47	84	51	80	50	84	55	82	50	88	54	83	49	88	55	86	52
24...	92	68	93	60	79	56	90	59	79	58	84	50	81	58	86	53	90	61	85	51	92	64	88	57	90	63	85	60
25...	100	64	97	58	94	52	94	61	92	53	86	67	93	57	80	62	91	54	74	61	92	59	90	57	94	68	90	63
26...	94	72	82	64	87	60	90	62	89	58	90	57	82	64	83	60	90	51	80	61	96	64	82	60	92	61	90	59
27...	88	63	80	60	85	66	86	61	83	63	81	61	76	60	80	60	86	52	78	59	90	61	87	65	93	65	92	67
28...	77	56	85	54	80	58	81	58	79	54	81	57	75	55	88	61	97	65	91	69	94	59	80	54	95	67	87	56
29...	92	52	83	45	81	49	80	56	77	50	71	57	79	49	80	55	92	60	82	58	84	52	.....	.....	86	62	82	52
30...	91	58	87	51	88	57	89	60	86	59	87	50	86	57	80	55	93	62	86	55	94	61	.....	.....	90	64	89	60
31...	97	58	90	52	89	48	91	58	87	50	89	52	87	56	91	55	99	65	90	54	97	60	.....	.....	96	63	89	64
Mns	87.7	61.4	82.9	57.7	80.9	55.9	81.0	58.0	78.5	55.5	80.0	53.7	78.8	56.6	80.4	57.9	88.5	62.8	81.3	59.6	87.9	59.7[a]	78.1[e]	56.4[e]	86.7	63.2	83.3	58.5

TABLE 3.—*Maximum and minimum temperatures at selected stations. District No. 6*—Continued.

Date.	South Dakota.						Colorado.				Nebraska.																	
	Sioux Falls.		Watertown.		Yankton.		Denver.		Wray.		Alma.		Bridgeport.		Grand Island.		Hay Springs.		Hebron.		Lincoln.		North Platte.		Oakdale.		Omaha.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	94	69	89	66	89	67	86	61	88	60	90	65	87	59	92	63	91	58	89	66	93	68	88	64	90	64	88	72
2...	97	70	89	69	97	73	90	62	92	65	91	64	92	63	98	68	95	56	92	68	96	71	96	66	97	69	94	74
3...	80	55	71	57	77	67	90	60	90	62	96	66	90	61	90	66	86	60	97	68	86	72	92	66	81	70	83	67
4...	70	52	64	54	67	56	85	60	95	65	95	70	83	66	94	68	85	61	92	69	89	68	95	69	81	61	80	64
5...	65	50	63	52	62	56	78	60	86	63	84	64	76	65	75	66	80	60	91	66	83	67	73	65	66	58	77	62
6...	70	55	66	57	68	59	86	62	84	66	86	66	80	64	78	61	86	64	80	70	81	66	82	63	73	59	77	62
7...	72	62	71	58	70	61	88	60	89	65	76	64	88	59	73	64	92	60	73	69	73	66	80	66	73	62	71	63
8...	78	63	75	61	80	66	86	56	92	66	87	69	88	58	82	67	84	57	80	69	80	67	92	69	83	65	78	67
9...	84	61	80	62	82	62	89	63	91	62	90	75	90	60	86	70	80	59	89	70	87	68	88	63	82	64	86	71
10...	90	69	84	55	82	60	84	62	83	61	87	67	80	51	83	66	83	55	83	66	86	67	83	60	86	60	87	70
11...	80	60	82	63	87	60	92	60	91	59	87	68	85	52	90	65	70	49	85	66	90	64	90	62	89	60	89	65
12...	79	65	73	53	79	63	85	60	85	57	85	64	80	56	83	64	74	50	84	62	85	66	82	60	82	61	84	66
13...	70	59	81	55	81	60	84	59	90	50	86	54	87	48	86	55	87	41	82	57	84	61	84	52	85	56	83	64
14...	70	55	76	59	78	61	73	59	81	58	89	62	76	58	86	66	77	52	84	67	88	67	80	59	79	60	85	68
15...	70	58	78	54	80	58	85	58	85	53	88	63	80	55	74	66	85	45	88	68	85	64	83	52	85	51	83	67
16...	74	57	82	48	81	62	88	62	87	59	91	63	85	51	88	67	87	52	87	64	87	65	85	58	88	61	86	67
17...	80	67	92	56	91	67	94	62	92	62	93	63	91	65	90	62	92	62	91	64	91	68	89	66	92	62	90	70
18...	82	63	85	63	93	71	95	64	93	64	94	70	90	65	91	70	94	63	93	68	92	72	91	68	92	69	91	74
19...	90	70	90	69	90	71	90	62	94	67	93	66	92	64	90	69	92	63	91	67	92	70	91	68	92	68	90	73
20...	94	68	92	73	93	75	89	61	97	65	95	71	93	51	94	70	94	56	93	71	93	73	94	71	95	71	91	74
21...	85	60	86	66	85	65	80	57	88	66	90	68	80	50	86	74	85	56	91	72	95	73	86	61	87	63	92	72
22...	80	56	76	57	77	56	77	59	82	50	85	53	80	46	80	54	80	42	79	59	81	59	81	54	80	53	77	62
23...	83	53	83	50	79	55	78	61	81	60	87	49	81	53	84	56	85	43	82	53	81	55	82	50	82	49	77	58
24...	85	58	84	50	84	54	85	59	89	62	75	63	83	60	78	54	83	57	84	59	85	55	77	60	87	50	82	62
25...	79	53	75	63	70	62	87	56	90	62	80	59	92	57	73	58	88	58	74	59	70	61	82	60	66	61	71	62
26...	80	59	81	61	76	63	86	59	87	61	82	61	86	53	76	61	90	50	79	65	77	64	82	60	82	64	74	62
27...	82	70	82	56	75	62	86	57	84	67	87	68	90	52	79	66	92	65	79	67	81	65	83	66	77	64	82	66
28...	93	74	90	69	95	70	88	56	97	64	93	72	90	59	90	69	91	56	88	71	91	70	96	64	96	70	89	72
29...	87	60	87	59	85	67	82	61	90	63	92	64	83	52	85	68	84	48	92	69	92	71	86	64	87	66	91	76
30...	89	56	85	53	88	62	88	58	92	57	91	66	91	59	90	67	92	56	88	67	89	67	90	64	89	61	87	67
31...	90	68	92	52	88	59	91	62	94	62	95	66	92	52	88	56	93	51	91	62	90	64	92	61	88	57	89	66
Mns.	81.4	61.0	80.8	58.7	81.6	62.9	86.0	59.9	89.0	61.4	88.4	64.6	85.8	56.9	84.9	64.4	86.4	55.0	86.2	65.5	86.2	66.3	86.2	62.3	84.3	61.6	84.0	67.3

Date.	Valentine, Nebr.		Iowa.						Kansas.										Missouri.							
			Clarinda.		Sibley.§§		Sioux City.		Colby.		Concordia.		Salina.		Topeka.		Wakeeney.		Columbia.		Kansas City.		St. Louis.		Unionville.§§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	96	66	90	67	88	64	90	65	92	61	91	68	92	66	91	70	88	66	89	66	88	71	91	72	92	68
2.....	97	69	94	65	94	66	96	71	90	61	95	70	95	68	94	71	90	67	92	68	93	73	96	73	90	70
3.....	80	64	76	70	73	57	75	65	92	65	95	74	100	70	96	72	92	66	88	68	94	71	83	63	78	71
4.....	83	64	80	61	61	56	66	54	98	64	94	72	92	70	89	67	93	68	78	59	85	65	81	57	76	57
5.....	70	58	85	61	62	51	63	57	90	65	99	70	95	73	96	73	93	70	86	66	93	74	82	66	73	58
6.....	76	58	85	62	68	53	70	60	85	66	85	72	100	72	94	69	86	67	93	70	93	73	88	72	81	61
7.....	83	62	73	63	74	58	70	61	86	68	79	72	92	71	78	70	82	69	77	71	80	70	78	70	70	64
8.....	85	68	80	63	74	60	75	66	92	67	86	71	88	73	84	73	87	71	85	69	81	72	83	70	84	60
9.....	83	65	88	66	81	62	83	65	91	68	89	69	95	72	91	70	87	72	89	68	88	71	88	70	89	64
10.....	85	57	89	66	80	61	84	64	89	66	83	69	92	73	86	69	81	69	74	68	83	71	76	69	85	67
11.....	80	58	88	66	80	62	86	63	89	58	90	63	88	60	92	63	89	59	90	67	89	69	92	71	84	64
12.....	78	56	84	64	77	59	81	66	84	62	86	63	86	65	83	63	87	62	82	64	82	63	89	70	80	63
13.....	83	50	89	59	77	58	80	62	88	55	88	61	92	59	87	65	88	58	84	62	85	67	82	72	84	62
14.....	77	57	89	63	77	59	79	62	86	61	88	69	86	64	85	66	84	62	80	64	85	70	83	72	87	60
15.....	85	50	87	66	77	54	80	58	84	61	86	70	89	65	86	70	85	67	85	62	84	70	86	72	83	63
16.....	86	58	88	60	79	53	82	61	87	62	89	66	82	65	87	66	87	66	86	61	85	70	84	72	85	57
17.....	94	67	94	65	87	59	91	69	89	68	89	67	91	68	89	69	90	64	89	64	88	71	85	72	90	62
18.....	96	70	95	67	88	62	90	69	91	66	90	71	92	69	91	68	91	68	90	66	91	71	87	71	91	66
19.....	95	72	90	70	87	64	90	71	92	64	90	70	95	68	90	71	90	67	85	62	88	72	80	61	80	60
20.....	99	73	93	67	90	69	91	74	95	69	92	73	92	67	90	71	93	71	85	61	87	70	81	66	86	59
21.....	80	57	95	63	85	71	84	64	90	70	96	68	95	70	90	67	93	72	89	59	89	66	90	68	88	58
22.....	80	50	81	60	73	58	77	60	83	54	82	62	80	59	81	65	81	58	82	66	80	70	83	71	80	62
23.....	84	49	84	55	77	51	79	56	82	52	84	58	80	56	81	60	84	53	81	59	81	64	79	64	83	57
24.....	85	64	85	52	81	52	81	54	83	59	80	58	78	57	84	60	77	53	83	56	82	64	82	65	86	60
25.....	90	62	66	59	73	54	68	61	86	60	78	60	85	56	73	64	85	60	78	60	71	65	81	68	74	58
26.....	87	56	76	60	73	61	73	62	83	59	83	69	81	67	82	68	84	62	85	62	82	65	72	62	73	60
27.....	87	63	83	62	75	60	77	64	85	65	82	72	78	67	82	69	86	68	90	69	86	67	88	66	76	62
28.....	92	66	91	62	89	62	90	72	92	66	92	71	90	68	92	74	93	70	89	73	91	76	93	75	90	66
29.....	81	57	97	73	84	68	88	70	93	64	92	68	100	71	97	75	95	67	90	73	91	73	93	78	94	74
30.....	95	64	86	66	84	61	87	62	88	62	89	69	90	69	88	68	90	65	86	69	82	69	89	76	88	70
31.....	92	60	89	63	86	57	86	61	93	64	90	65	95	67	90	70	93	62	88	66	88	72	85	71	91	67
Mns.....	86.0	61.0	86.1	63.4	79.2	59 4	81.0	63.5	88.6	63.0	88.1	67.7	89.9	66.6	87.7	68.3	87.9	65.1	85.4	65.1	86.0	69.5	84.8	69.2	83.6	62.9

Climatological Data for July, 1909.

DISTRICT No. 7, LOWER MISSISSIPPI VALLEY.

Dr. ISAAC M. CLINE, District Editor.

TEMPERATURE.

The mean temperature for the month was above the normal, generally throughout the division except in northeastern Missouri, where there was a deficiency of slightly more than two degrees. The greatest excess in temperature, 3.5°, occurred over southeastern Colorado in the Arkansas Valley and over central and southern Oklahoma in the Canadian and Red River valleys. The highest monthly mean temperature was 87.7°, at Ardmore, Carter County, Okla., and the lowest was 55.4°, at Lake Moraine, El Paso County, Colo. The maximum temperature for the month was above 100° in nearly all parts of the division, except in the Kentucky area, a large part of the Missouri area, and the mountainous regions of the Colorado and New Mexico areas. The highest temperature officially recorded was 111° on the 12th, at Cloud Chief, Washita County, Okla. A temperature of 136° was reported as accompanying a hot wind on the night of the 10–11th, in the vicinity of Cherokee, Alfalfa County, Okla. (This "hot wind" is discussed at length elsewhere in the REVIEW). The accuracy of the thermometers can not be vouched for, but it suffices to say that the heat was very intense as was evidenced by the effects upon vegetation. The wind was very dry, parching the skin. There was no rain in the heated district, but light showers were reported from the surrounding country. The highest temperatures of the month occurred generally from the 10th to the 18th, although in some eastern sections the month closed with a warm period in progress. The lowest temperature recorded was 32° at Lake Moraine, El Paso County, Colo. Except at the high mountain stations in Colorado and New Mexico, the minimum temperatures were well above 50° in all portions of the section, and the month as a whole can be said to have been favorable as regards temperature in practically all portions of the district.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—The precipitation for the month was very unevenly distributed throughout the drainage area. There was an excess at the extreme headwaters of the Arkansas proper; otherwise, there was a deficiency of half an inch eastward to the 99th meridian, except that there was an excess at a few stations to the north of the Arkansas Valley in eastern Colorado. Between the 99th and 95th meridians there was a general excess, ranging from half an inch to more than 2 inches, except in the valley of the Cimmaron, where there was a deficiency ranging from half an inch to more than 2 inches. In the Neosho Valley there was a marked excess, the greatest being 6.10 inches at Leroy where the total monthly rainfall was 13.03 inches. The precipitation was below the normal in all portions of the Canadian Basin, except at a few stations in New Mexico and in the Texas Panhandle; the deficiency was generally 2 to 3 inches over that portion of the Canadian Valley that lies in Oklahoma. In the lower reaches of the Arkansas, including extreme eastern Oklahoma and that portion of Arkansas draining into the Arkansas River, there was a general deficiency ranging from 1 to 4 inches. Heavy rains (2.50 inches, or more in twenty-four hours) fell in the Neosho Basin as follows: On the 7th, Lebo, 3.06; Council Grove, 5.02, and Neosho Rapids, 3.00. On the 10th, Burlington, 3.47; Leroy, 8.20; Marion, 3.60; Neosho Rapids, 2.70. On the 25th, Cottonwood Falls, 3.40, and Emporia, 2.97. Madison in the Verdigris Basin reported 3.44 on the 10th; Coolidge, Kans., on the Arkansas proper, reported 3.27 inches on the 25th; Jefferson, Okla., on the Arkansas proper, 3.58 inches on the 25th, and White Eagle, Okla., on the Arkansas proper, 2.50 inches on the 27th.

Red River and tributaries.—Over that portion of the Red River Valley lying in the Texas Panhandle, there was a slight excess of precipitation for the month, but over the remainder of the basin there was a deficiency, except in a few localities in southwestern Oklahoma. In the Texas Panhandle the monthly amounts ranged from 1.20 to 4.09 inches; in the middle reaches of the Red, along the Oklahoma-Texas line, the monthly amounts were very small ranging from 0.04 inch to 1.73 inches, but being generally less than 1 inch and in many cases less than half an inch. In that part of the drainage area lying within the State of Louisiana, monthly totals were somewhat larger, ranging from 2 to 4 inches, but the precipitation was below the July average, the deficiency ranging from 1.78 to 3.43 inches. The least rainfall in the Red River Valley was 0.04 inch in south-central Oklahoma, and the heaviest, 4.00 inches, in central Louisiana. Heavy rains occurred in the Red River Valley as follows: Harrington, Okla., 2.74 on the 1st.

Mississippi south of St. Louis and small tributaries.—There was an excess ranging from half an inch to more than 2 inches over the greater portion of the area drained by the Meramec and the upper portion of the White. Over the extreme northwestern portion of Tennessee, and the extreme southwestern portion of Kentucky, there was an excess of more than 3 inches. South of the 36th parallel of latitude, there was a general deficiency of precipitation in the vicinity of the Mississippi. Over the lower White the deficiency was 1 to 2 inches. The deficiency ranged generally from 1 inch to more than 4 inches over the western portion of the State of Mississippi. In the Yazoo and Big Black valleys, the deficiency was generally more than 3 inches. Throughout the Ouachita Valley, there was a general deficiency of about 2 inches. Heavy rains occurred in the immediate vicinity of the Mississippi as follows: On the 7th, Caruthersville, Mo., 2.50, and Sikeston, Mo., 2.80 inches.

Louisiana coastal plain.—In Louisiana south of the 31st parallel of latitude, the runoff from precipitation does not discharge through either the Mississippi or the Red (Atchafalaya), but is carried direct to the Gulf of Mexico in numerous sluggish streams, styled, as a rule, bayous. The precipitation over this area ranged from 2 to 8 inches. The deficiency was from 2 to 6 inches west of the Mississippi and was generally less than 1 inch east of the Mississippi.

SUMMER HOT WINDS

A report from Rev. A. L. Ray of Cherokee, Okla., says:

Between one and three o'clock on the morning of July 11, a strange phenomenon occurred in Cherokee, Okla., and vicinity. The thermometers recorded a rise in temperature to 136°. The effect of the hot winds on vegetation indicated that the center of greatest heat was a few miles south of Cherokee.

Hot winds or hot currents of air, similar to those described above, have been reported occasionally from different parts of the Great Plains region since the commencement of meteorological observations in that section of the country, and they form an interesting phenomenon. The intensely hot currents are narrow and are separated by intervals of cooler air ranging in width from a few feet to several hundred yards. The individual hot currents of air are of short duration, but often occur in rapid succession at places near where they have been previously experienced. At times the hot winds are observed over a small area, then at other times groups of such hot winds separated by only a few miles cover a considerable extent of territory, and

again several miles intervene between such groups, and in this manner the hot winds sometimes extend over the whole of a State, or a portion of two or three States.

The occurrence of summer hot winds can readily be discerned from their effects on vegetation. The more intensely hot currents burn tender vegetation to a crisp in a few minutes, notwithstanding that the earth may be wet and there may be a large percentage of moisture in the general atmosphere. The leaves of trees have been dried to a crisp in some instances and apples have been reported cooked on the trees.

These winds occur only when a marked area of low pressure has remained nearly stationary or moved back and forth over the eastern slope of the Rocky Mountains or the Plains States for a few days, coincident with the existence of a high pressure area over the North Pacific States. Such conditions acting with the general eastward trend of the winds of the middle latitudes carry the atmosphere from the Pacific coast across the Continental Divide to the eastern Rocky Mountain region. In crossing the Divide, the moisture of the air is precipitated on the western slope as a result of cooling in ascent and the air is dry when carried forward into the upper portion of the western segment of the lower pressure area over the eastern Rocky Mountain slope or the Plains States. This air in descending over the eastern slope, after having dissipated the cloud carried over, gains in temperature dynamically nearly twice as rapidly in descending through a corresponding distance, as it cooled in ascending the western slope. (Precipitation from cooling during ascent liberates the heat that holds the water in a state of vapor and thereby compensates for the heat lost dynamically in ascent to the extent of nearly one-half). In moving toward the low pressure area, this dry air takes up the circulation around it first from the north, then from the west, and when the southeastern quadrant is reached it is from a southerly direction. Since the upper atmosphere moves forward more rapidly than the lower, this dry air is carried outward in the upper region over the moister and less dense air near the earth's surface in the southeast quadrant of the low pressure area. This dry air from a high altitude descends rapidly, through the moist and less dense air, to the earth's surface, with its initial dryness and the warmth gained dynamically, and gives us the peculiar hot winds observed in summer over the Great Plains. For a full account of all hot winds in summer reported from the Great Plains prior to 1894 and the conclusions as to their cause, see Bulletin, vol. XII, pp. 309–348, Philosophical Society of Washington, D. C., 1894.

TABLE 1.—*Climatological data for July, 1909. District No. 7, Lower Mississippi Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Colorado.																			
Blaine	Baca	3,935	17	78.4	+ 2.3	103	11	58	18†	40	1.18	− 1.74	0.60	0.0	7	22	9	0	s.	M. M. Meyers.
Buena Vista	Chaffee	7,955	9	62.0	.....	85	17	35	5	45	1.63	.....	0.88	0.0	2	20	6	5	w.	M. D. Balmer.
Calhan	El Paso	6,700	2	68.2	.....	90	11	51	13†	37	2.86	.....	0.79	0.0	10	14	13	4	se.	H. B. Rice.
Canon City	Fremont	5,325	21	77.0	+ 3.9	99	11	58	26	39	0.51	− 1.38	0.30	0.0	4	6	23	2	e.	Thomas J. Tynan.
Colorado Springs	El Paso	6,098	30	68.6	+ 0.7	94	11	46	27	39	1.94	− 0.90	0.90	0.0	10	20	9	2	.....	Colorado College.
Cripple Creek	Teller	9,396	9	.....	.....	.....	.....	.....	.....	.....	3.06	− 0.77	0.63	0.0	8	.....	.....	.....	.....	F. G. Willis.
Cuchara Camps	Huerfano	8,200	.....	.....	.....	.....	.....	.....	.....	.....	1.79	.....	0.42	0.0	6	22	9	0	sw.	George A. Mayes.
Eads	Kiowa	4,209	2	75.6	.....	97	1†	52	8	38	2.25	.....	0.70	0.0	6	.....	.....	.....	se.	W. H. Lauk.
Fairview	Custer	9,500	.....	.....	.....	.....	.....	.....	.....	.....	1.42	.....	0.60	0.0	4	19	7	5	e.	Elizabeth L. Gray.
Florence	Fremont	5,185	.....	.....	.....	102	17	.....	.....	.....	1.51	.....	1.20	0.0	3	24	0	7	se.	W. G. Fish.
Garfield	Chaffee	9,510	.....	.....	.....	.....	.....	.....	.....	.....	2.44	.....	0.41	0.0	14	11	14	6	.....	Lloyd N. Felton.
Glen Eyrie	El Paso	6,560	17	67.0	+ 1.5	91	11†	47	11†	44	3.45	+ 0.60	1.02	0.0	10	19	11	1	n.	C. Nickell.
Hamps	Elbert	5,400	16	67.6	+ 0.5	90	11	47	17	39	3.94	+ 1.60	1.96	0.0	9	22	5	4	s.	W. Hamp.
Hermit Lake	Custer	10,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hoehne (near)	Las Animas	5,700	17	70.4	+ 0.1	101	9†	41	3	56	2.10	− 0.16	0.70	0.0	7	26	4	1	w.	S. W. DeBusk.
Holly	Prowers	3,380	14	77.9	+ 1.4	100	11	55	5	39	3.73	+ 0.75	1.63	0.0	7	24	7	0	se.	R. I. Arneson.
Lake Moraine	El Paso	10,265	15	55.4	+ 2.2	74	11†	32	1	33	3.89	− 0.39	1.00	0.0	16	4	25	2	ne.	Joseph Strong.
Lamar	Prowers	3,592	19	80.3	+ 2.9	104	11†	60	2†	38	1.59	− 1.49	1.28	0.0	4	24	7	0	e.	J. T. Lawless.
Las Animas	Bent	3,899	41	80.4	+ 3.5	106	20	57	17	46	1.65	− 0.36	0.57	0.0	6	13	7	11	se.	F. M. Tague.
La Veta Pass	Costilla	9,000	.....	.....	.....	.....	.....	.....	.....	.....	1.57	.....	0.80	0.0	5	16	8	7	w.	Norvin R. Lively.
Leadville	Lake	10,248	13	57.0	+ 6.8	77	8	38	28	35	2.34	+ 1.26	0.54	0.0	13	.....	.....	.....	n.	U. S. Weather Bureau.
Limon (near)	Elbert	5,360	2	69.4	.....	90	18†	51	22	37	3.17	.....	1.70	0.0	7	25	5	1	se.	John Lesher.
Marshall Pass	Saguache	10,846	6	.....	.....	.....	.....	.....	.....	.....	2.17	.....	0.43	0.0	10	20	7	4	w.	W. D. Lillard.
North Lake	Las Animas	8,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Guy H. Crane.
Pueblo	Pueblo	4,734	21	76.0	+ 1.8	102	11	56	22	41	1.21	− 0.76	0.41	0.0	7	17	12	2	se.	U. S. Weather Bureau.
Rockyford (near)	Otero	4,177	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. K. Blinn.
St. Elmo	Chaffee	9,500	.....	.....	.....	.....	.....	.....	.....	.....	3.43	.....	0.77	0.0	12	12	5	14	sw.	Daniel Clark.
Salida	....do	7,035	11	67.5	+ 2.5	92	2	40	10	47	1.05	− 0.39	0.40	0.0	7	22	5	4	w.	M. D. L. Buell.
Santa Clara	Huerfano	8,250	14	65.4	+ 2.5	93	11	47	2†	45	2.71	− 0.57	0.80	0.0	15	4	27	0	.....	Lincoln Morris.
Sheridan Lake	Kiowa	4,065	8	78.6[a]	+ 6.0	103[a]	18	55[a]	13	40[a]	4.65	+ 1.19	3.00	0.0	6	25	3	3	se.	Howard Gamble.
Stonewall	Las Animas	8,000	3	.....	.....	.....	.....	.....	.....	.....	2.10	.....	0.55	0.0	14	10	20	1	.....	J. W. Shouse.
Trinidad	....do	5,994	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Victor (near)	Teller	10,100	5	61.8	.....	92	13	34	15	43	4.27	.....	1.63	0.0	15	15	13	3	n.	Fred Jones.
Vilas	Baca	3,935	19	.....	.....	.....	.....	.....	.....	.....	1.91	− 0.11	1.04	0.0	5	6	25	0	sw.	Carrie Konkel.
Westcliffe	Custer	7,864	15	65.2	+ 4.0	98	8†	38	10	48	2.27	− 0.52	0.79	0.0	11	10	20	1	sw.	Zack Jordan.
Winfield	Chaffee	9,765	.....	.....	.....	.....	.....	.....	.....	.....	1.80	.....	0.51	0.0	9	8	19	4	sw.	John G. Payne.
Wortman	Lake	11,250	9	.....	.....	.....	.....	.....	.....	.....	6.84	+ 3.82	2.00	0.0	14	1	15	15	e.	George C. Wortman.
New Mexico.																				
Abott	Mora	5,771	.....	.....	.....	.....	.....	.....	.....	.....	1 89	.....	0.75	0.0	5	3	23	5	sw.	Agt. E. P. & S. W. Ry.
Albert	Union	4,700	19	79.4	+ 2.4	106	11	60	16	40	0.64	− 2.31	0.40	0.0	5	17	12	2	s.	Andrew Knell.
Arch (near)	Roosevelt	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Wm. A. Elliott.
Aurora	Colfax	8,849	.....	.....	.....	.....	.....	.....	.....	.....	1.77	.....	0.71	0.0	11	2	23	4	sw.	Miss Juanita Lucero.
Bell Ranch	San Miguel	4,500	5	79.7	.....	106	11	58	16†	40	4.01	+ 1.13	1.25	0.0	13	11	16	4	sw.	C. M. O'Donel.
Black Lake	Colfax	8,348	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.49	0.0	6	1	15	4	w.	Ralph T. Martines.
Cabeza	San Miguel	5,406	.....	.....	.....	.....	.....	.....	.....	.....	0.87	.....	0.36	0.0	7	16	14	1	.....	Agt. E. P. & S. W. Ry.
Campana	....do	4,493	.....	.....	.....	.....	.....	.....	.....	.....	1.97	.....	1.01	0.0	8	13	17	1	.....	Do.
Chacon	Mora	9 000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alfred Lucero.
Cimarron (near)	Colfax	6,385	4	69.4	.....	92	11	47	14	44	1.70	.....	0.65	0.0	10	11	16	4	e.	Wm. French.
Clayton	Union	5,178	5	76.4	.....	98	11	56	26	37	1.90	.....	0.77	0.0	5	17	14	0	w.	Dr. W. W. Chilton.
Cuervo	Guadalupe	4 849	.....	.....	.....	.....	.....	.....	.....	.....	2.03	.....	0.92	0.0	5	.....	.....	.....	.....	Agt. E. P. & S. W. Ry.
Dawson	Colfax	6,396	.....	.....	.....	.....	.....	.....	.....	.....	1.75	.....	0.58	0.0	10	12	5	14	.....	Do.
Dorsey (near)	....do	6,000	8	72.0[a]	.....	95[a]	16	50[a]	16†	45[a]	3.70	.....	1.50	0.0	13	11	16	0	s.	Geo T. Lambert.
Elizabethtown	....do	8,465	3	59.0	.....	85	12	36	29	48	2.98	.....	0.94	0.0	8	11	16	4	w.	Miss Mabel Carrington.
Fort Union	Mora	6,835	40	67.2	− 1.7	91	11	44	14	41	2.88	− 1.32	0.65	0.0	12	18	13	0	sw.	M. C. Needham.
Hayden	Union	4,444	.....	77.2	.....	98	9	55	13†	40	1.86	.....	0.56	0.0	7	7	18	6	s.	George L. Cook.
Lake Alice	Colfax	7,160	.....	.....	.....	.....	.....	.....	.....	.....	1.76	.....	0.86	0.0	5	.....	.....	.....	.....	Raton Water Co.
Logan	Quay	3,851	3	80.7	.....	105	11	57	28	43	2.10	.....	0.93	0.0	6	14	15	2	s.	John B. Reneau.
Los Alamos	San Miguel	6,789	5	.....	.....	.....	.....	.....	.....	.....	2.64	.....	0.90	0.0	10	.....	.....	.....	.....	Wm. Frank, sr.
Maxwell (near)	Colfax	5,894	3	.....	.....	.....	.....	.....	.....	.....	3.97	.....	3.00	0.0	9	.....	.....	.....	.....	D. N. Jackson.
Melrose	Curry	4,400	1	78.0	.....	104	11	58	28†	40	1.47	.....	0.81	0.0	9	25	5	1	sw.	Dr. F. A. White.
Miami Ranch	Colfax	6,000	2	70.6[b]	.....	94[b]	11	48[b]	26	42[b]	3.77	.....	2.72	0.0	7	13	17	1	w.	Farmers' Devel. Co.
Montoya	Quay	4,335	.....	.....	.....	.....	.....	.....	.....	.....	1.16	.....	0.70	0.0	8	20	0	11	s.	Agt. E. P. & S. W. Ry.
Nara Visa	....do	4,225	4	77.8	.....	103	11	58	13	38	2.59	.....	0.71	0.0	8	19	5	7	s.	Willard Belknap.
Raton	Colfax	6,660	12	71.3	+ 2.0	96	11	51	26	41	2.13	− 0.07	0.85	0.0	14	15	16	0	w.	Prof. R. C. Crum.
Rociado	San Miguel	8,200	6	63.8	.....	85	11†	41	10	42	4.07	.....	0.83	0.0	14	5	23	3	s.	Chas. F. Rudolph.
Roy	Mora	5,884	.....	.....	.....	.....	.....	.....	.....	.....	1.43	.....	0.95	0.0	4	.....	.....	.....	.....	Agt. E. P. & S. W. Ry.
San Jon	Quay	4,200	3	80.4	.....	104	11	61	7	36	1.67	.....	0.90	0.0	7	9	17	5	sw.	Jessie T. White.
Salano	Mora	5,622	.....	73.8	.....	98	11	54	16†	37	1.46	.....	0.39	0.0	10	16	6	9	s.	F. M. Hughes.
Springer	Colfax	5,857	14	.....	.....	.....	.....	44	21	.....	.....	.....	.....	0.0	5	14	17	0	w.	Agt. A. T. & S. F. Ry.
Taylor	....do	5,661	.....	.....	.....	.....	.....	.....	.....	.....	1.94	.....	0.63	0.0	8	8	19	4	se.	Agt. E. P. & S. W. Ry.
Trementina	San Miguel	.....	2	.....	.....	.....	.....	.....	.....	.....	2.54	.....	0.64	0.0	9	12	18	1	s.	Miss Alice Blake.
Tucumcari (1)	Quay	4,194	5	81.0	.....	105	11	62	1	35	2.03	.....	0.64	0.0	6	23	8	0	s.	John F. Seaman.
Tucumcari (2)	....do	4,194	.....	.....	.....	.....	.....	.....	.....	.....	1.90	.....	0.73	0.0	5	3	27	1	sw.	Agt. E. P. & S. W. Ry.
Vermejo Park	Colfax	7,600	6	64.4	.....	91	11	43	18	44	4.53	.....	1.10	0.0	10	5	13	13	w.	H. W. Adams.
Wagon Mound (near)	Mora	6,300	1	70.6	.....	96	11	48	28	43	3.48	.....	1.13	0.0	12	12	15	3	sw.	Guy L. Barnes.
Texas.																				
Amarillo	Potter	3,676	17	77.9	+ 1.8	96	11	62	1	30	3.63	+ 0.46	1.18	0.0	8	15	16	0	s.	U. S. Weather Bureau.
Arthur	Lamar	590	17	.....	.....	.....	.....	.....	.....	.....	0.30	.....	0.22	0.0	2	26	2	3	.....	J. H. Hodnett.
Bonham[d]	Fannin	566	6	86.8	.....	105	14	64	21	31	1.73	.....	1.43	0.0	2	13	7	9	se.	B. S. Lovelace.
Canadian	Hemphill	2 339	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. M. Vance.
Channing	Hartley	.....	4	79.4	.....	104	10	59	1	38	2.93	.....	2.00	0.0	2	.....	.....	.....	se.	C. F. Land Inv. Co.
Childress	Childress	1,869	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. E. Davis.
Chillicothe	Hardeman	1 406	1	.....	.....	.....	.....	.....	.....	.....	0.49	.....	0.24	0.0	3	15[b]	14[b]	0[b]	.....	A. B. Conner.
Clarendon	Donley	2,719	4	83.1	.....	104	11	61	1	35	2.02	.....	1.75	0.0	2	20	11	0	se.	J. B. McClelland.
Clarkesville	Red River	442	4	85.3	.....	106	31	64	24	32	3.49	.....	2.20	0.0	4	23	4	4	.....	J. W. O'Neill.
Claude	Armstrong	3,397	4	.....	.....	.....	.....	.....	.....	.....	4.09	.....	2.01	0.0	5	.....	.....	.....	.....	Agt. F. W. & D. C. Ry.
Dalhart	Dallam	3,998	4	77.8	.....	104	12	55	13	37	1.27	.....	0.50	0.0	4	12	15	4	s.	F. E. Kennard.
Denison	Grayson	.....	1	.....	.....	.....	.....	.....	.....	.....	0.44	.....	0.20	0.0	3	18	7	6	s.	Wm. S. Faires.
Henrietta	Clay	915	14	87.4	+ 3.5	106	14	68	24	35	0.70	− 1.68	0.35	0.0	2	23	0	8	s.	C. K. Brown.
Hereford	Deaf Smith	3,750	4	77.8	.....	98	10†	60	12†	35	2.69	.....	0.85	0.0	6	8	7	16	s.	A. C. Elliott.
Higgins	Lipscomb	2,760	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. D. Shaw.
McLean	Gray	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. R. Patterson.
Memphis	Hall	2,067	4	85.1	.....	105	10	64	24	34	1.20	.....	0.75	0.0	3	19	7	5	.....	Agt. Ft. W. & D. C. Ry.
Miami	Roberts	2,743	3	82.4	.....	104	10	60	23	35	3.78	.....	2.60	0.0	3	22	8	1	s.	Jerome Harris.
Mobeetie	Wheeler	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.00	.....	1.00	0.0	1	20	9	2	.....	R. A. Choate.
Nazareth	Castro	.....	3	78.2	.....	97	11†	60	18	32	3.18	.....	1.70	0.0	8	25	0	6	s.	P. A. Kalein.

TABLE 1.—*Climatological data for July, 1909. District No. 7*—Continued.

Stations.	Counties.	Elevation, *feet*.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Cont'd.																				
Ochiltree	Ochiltree		1								2.50		0.95	0.0	5					S. J. Allen.
Pampa	Gray	3,226		77.4		97	31	60	23	30	3.70		1.50	0.0	6					B. E. Finley.
Paris	Lamar	592	20	86.8	+ 4.0	105	9†	66	24	32	0.48	− 3.09	0.48	0.0	1	18	2	11	s.	N. O. Enloe.
Plemons	Hutchinson		2	78.2		99	31	53	13	42	2.76		1.82	0.0	9	22	3	6	s.	C. S. Solomon.
Quanah	Hardeman	1,563	4	84.4		106	12†	61	23†	41	1.57		0.70	0.0	5	23	3	5	s.	E. E. Miller.
Sherman	Grayson	745	16	86.6	+ 3.8	102	9	69	21†	26	0.12	− 4.71	0.12	0.0	1	12	9	10	s.	R. A. Gibbs
Sulphur Springs	Hopkins	530	17																	W. B. Baxter.
Texline	Dallam	4,694	4																	Agt. Ft. W. & D. C. Ry
Tulia	Swisher	3,501	11	79.2	+ 2.9	100	11†	60	18	35	3.17	− 1.77	1.38	0.0	5	0	31	0	se.	Lou Mulhall.
Wichita Falls	Wichita	958	4																	J. B. Nicholson.
Kansas.																				
Anthony	Harper	1,329	12	81.6		103	8	59	23†	35	5.60	+ 1.89	1.94	0.0	9	10	16	5	sw.	R. H. Beebe.
Ashland	Clark	1,951	2	82.0	+ 1.9	108	28	57	13	39	2.69	− 1.04	0.79	0.0	10	19	12	0	s.	C. W. Carson.
Burlington	Coffey	1,010	16	79.0	+ 0.9	99	3	55	24	33	7.97	+ 4.06	3.47	0.0	11	17	13	1	s.	A. W. Maxwell.
Chanute	Neosho	940	5	77.8	− 1.4	97[k]	10	56[k]	25†	32[k]	6.48	+ 1.90	2.04	0.0	5	18	9	4	s.	Chase W. Brown.
Cimarron[m]	Gray	2,700	3	79.3		102	28	55	13†	39	2.00		1.02	0.0	5	0	18	0	se.	Fred Mallonee.
Coldwater	Comanche	2,090	11	81.0	+ 2.4	101	28	59	13†	36	3.42	− 0.31	1.59	0.0	8	22	9	0	se.	J. L. Stanley.
Columbus	Cherokee	898	19	80.0	+ 1.9	100	9	56	24	30	4.51	− 0.73	1.82	0.0	11	23	6	2	se.	O. E. Skinner.
Coolidge	Hamilton	3,346	13	77.3	+ 0.7	96	4†	57	13	33	5.57	+ 2.52	3.27	0.0	4	16	14	1	se.	W. R. Padley.
Cottonwood Falls	Chase	1,234	5	71.4		97	5†	53	24	31	10.19	+ 5.58	3.40	0.0	14	22	4	5	s.	E. B. Greene.
Council Grove	Morris	1,191		77.7		99	3	54	24†	39	10.34		5.02	0.0	9	22	3	6	s.	Geo. W. Cleek, jr.
Cunningham	Kingman	1,680	21	81.0	+ 2.9	102	31	53	23	39	2.50	− 1.16	1.10	0.0	5	14	16	1	se.	W. H. Morton.
Dodge City	Ford	2,513	35	79.5	+ 1.8	100	28	60	23	36	2.93	− 0.45	0.92	0.0	10	14	15	2	s.	U. S. Weather Bureau
El Dorado	Butler	1,291	7	79.0	+ 0.2	98	5†	57	24	34	3.65	+ 0.77	0.95	0.0	9	27	3	1	s.	W. Y. Miller.
Ellinwood	Barton	1,788	15	79.7	+ 2.2	100	5	55	23	36	4.35	+ 0.78	1.29	0.0	14	4	26	1	se.	Martin Musil.
Emporia	Lyon	1,138	25	77.5	− 0.8	96	5†	58	23	27	9.85	+ 6.10	2.97	0.0	15	15	14	2	s.	W. H. Boyles.
Eureka	Greenwood	1,093	11	78.6		97	7†	56	24	32	5.56	+ 0.86	1.30	0.0	12	21	7	3	s.	T. C. Peffer.
Fall River	do	925	13	79.2	+ 1.1	98	7†	56	23†	34	6.42	+ 0.57	3.40	0.0	9	22	9	0	s.	J. McDaniel.
Fargo	Seward										0.67		0.32	0.0	3	12	19	0	s.	Frank Swink.
Fredonia	Wilson	864	6	79.2	+ 1.7	97	9	57[a]	23	33[a]	5.16	− 0.56	1.87	0.0	8	17	12	2	s.	B. W. Holmes.
Garden City	Finney	2,836	15	77.9	+ 0.5	98	4†	58	12†	36	6.22	+ 3.12	1.87	0.0	7	19	11	1	s.	B. F. Stocks.
Great Bend	Barton	1,850																		J. A. Pritchard.
Greensburg	Kiowa	2,235	2	79.4		103	28	54	23	36	2.00		0.84	0.0	9	30	1	0	s.	C. C. Raymond.
Grenola	Elk	1,116	22	78.6	+ 0.7	99	8	56	24	31	5.73	+ 2.14	1.89	0.0	8	20	9	2	s.	R. M. Lawyer.
Howard	do	1,112	2								4.33		2.18	0.0	5	24	5	1	sw.	J. W. Eby.
Hugoton	Stevens		5	78.4		102	21	52	13†	38	2.31	− 1.18	0.80	0.0	4	24	0	7	s.	J. A. Firmin.
Hutchinson	Reno	1,535	19	79.0	+ 1.7	97	5†	56	23†	35	4.52	+ 0.30	1.22	0.0	13	17	12	2	s.	E. S. Webster.
Independence	Montgomery	816	37	80.4	− 0.3	99	8†	58	23†	29	3.67	− 0.68	1.26	0.0	9	18	8	6	s.	J. M. Altaffer.
Iola	Allen	984	3	78.6	+ 0.5	95	3	58	24	27	5.15	+ 1.23	1.78	0.0	11	13	14	4	se.	U. S. Weather Bureau.
Jetmore	Hodgeman	2,268	8	78.6	+ 1.7	101	29	55	23	35	4.83	+ 1.94	1.20	0.0	9	9	22	0	se.	James Aikin.
Kingman	Kingman	1,504	1	80.8		101	29	53	23	39	1.77		0.65	0.0	8	11	20	0	sw.	B. B. Anawalt.
La Crosse	Rush	2,061	7	78.4[k]		104[k]	21	51[k]	23	37[k]	4.42	+ 0.87	1.07	0.0	13	9	13	2	se.	Rodney Torrey.
Lakin	Kearney	2,993	19	79.0	+ 1.3	103	3	54	13	42	3.77	+ 1.60	2.10	0.0	6	22	9	0	se.	C. H. Longstreth.
Larned	Pawnee	2,090	5	80.4	+ 3.9	102	5†	52	23	38	2.10	− 2.03	0.61	0.0	12	17	14	0	se.	H. H. Wolcott.
Lebo	Coffey	1,138	23	76.8	− 1.5	94	5†	58	23	25	12.75	+ 8.60	3.57	0.0	15	16	12	3	s.	J. J. Bowman.
Le Roy	do	990									13.03		8.20	0.0	13	21	4	6	s.	F. W. Schmitt.
Liberal	Seward	2,843	2																	R. T. Nichols.
Macksville	Stafford	2,032	16	78.8	+ 0.9	104	28	50	23	37	2.83	− 0.19	1.20	0.0	8	15	7	9	s.	Mrs. Nelia Poling.
McPherson	McPherson	1,495	19	79.2	+ 0.6	99	29	56	23	34	6.14	+ 1.90	1.22	0.0	12	12	9	10	se.	Ed. F. Haberlein.
Madison	Greenwood	1,074	8	77.6	+ 0.2	98	30	53	24	30	9.79	+ 4.58	3.44	0.0	12	1	30	0	se.	C. A. David.
Marion	Marion	1,310	15	79.0	− 1.4	98	5†	57	23	28	9.32	+ 6.38	3.60	0.0	13	8	23	0		D. D. McIntosh.
Medicine Lodge	Barber	1,475	16	81.4	+ 1.3	103	5†	52	23	40	2.15	− 0.34	1.07	0.0	8	15	16	0	s.	S. P. Garrison.
Medora	Reno	1,480									4.44		1.12	0.0	10	23	2	6	s.	M. L. Rickenbrode.
Mt. Hope	Sedgwick	1,410	12								2.95	− 0.46	0.71	0.0	11	18	12	1	s.	H. N. Renfrew.
Neosho Rapids	Lyon	1,092	4								11.21		3.00	0.0	13	19	4	8	s.	J. E. McLeod.
Ness City	Ness	2,260	12								2.00	− 1.56	0.75	0.0	5					J. K. Band.
Newton	Harvey	1,454	12	79.6	+ 1.4	98	6†	56	23	36	6.27	+ 2.88	1.26	0.0	12	15	15	1	s.	C. F. Walden.
Norwich	Kingman	1,496	13	82.2	+ 3.7	100	5†	58	23	34	2.73	− 0.49	1.40	0.0	9	6	25	0	se.	N. I. Farris.
Oswego	Labette	899	18	80.8	+ 1.5	98	9†	59	24	32	3.49	− 1.09	1.61	0.0	11	15	15	1	s.	Jas. M. Currigan.
Pratt	Pratt	1,950	14	77.9[l]	+ 0.2	101[k]	31	56[l]	13	35[l]	4.48	+ 1.21	0.91	0.0	11					E. H. Ellsworth.
Rome	Sumner	1,218	12	80.0[a]	+ 1.1	100[a]	8	56[a]	23†	37[a]	7.27	+ 4.16	3.20	0.0	9	13[l]	7[l]	2[l]	s.	D. M. Adams.
Sedan	Chautauqua	834	24	80.2	+ 0.9	100	8†	56	24	32	4.98	+ 1.29	1.79	0.0	8	16	9	6	s.	A. Y. Buckles.
Toronto	Woodson	1,040	12	79.2	+ 1.6	99	9	57	24	33	5.75	+ 0.39	2.10	0.0	13	15	3	13	s.	M. A. Webb.
Ulysses	Grant	3,027	15			99[r]	5							0.0						T. W. Marshall.
Walnut	Crawford	940	7	80.8	+ 3.3	97	30	61	22	31	3.82	− 1.78	1.26	0.0	8	23	8	0	se.	R. C. Harlan.
Wichita	Sedgwick	1,377	22	79.6	+ 0.6	98	7	59	23	28	3.26	− 0.36	0.92	0.0	10	13	16	2	se.	U. S. Weather Bureau.
Winfield	Cowley	1,124	12	80.4	+ 1.8	100	7	57	23†	28	5.83	+ 1.51	2.50	0.0	6	22	5	4	s.	M. B. Light.
Yates Center	Woodson	1,068	16	78.8[a]	+ 1.5	98[a]	10†	56[a]	24	32[a]	5.81	+ 1.49	2.30	0.0	12	11	19	0	s.	J. W. Tipton.
Oklahoma.																				
Ada	Pontotac	1,001	3	85.8		106	14	60	24	35	0.63		0.23	0.0	4	28	3	0	s.	Dr. J. P. McKinley.
Apache	Caddo		1	85.6		107	31	59	24	39	0.29		0.20	0.0	3	18	1	2	se.	G. D. Teeter.
Arapaho	Custer	1,575	16	84.0	+ 3.9	105	31	60	23	37	0.57	− 3.39	0.38	0.0	2	27	3	1	s.	Geo E. Marsh.
Ardmore	Carter	872	8	87.7	+ 5.7	108	9†	64	24	38	0.18	− 2.67	0.18	0.0	1	17	11	3	s.	H. T. Nisbett.
Bartlesville	Washington		3	82.2		103	9	57	24	31	5.99		1.87	0.0	7	23	7	1	se.	Dr. A. P. Owens.
Beaver	Beaver	2,500	13	84.0	+ 3.9	107	28	54	22	40	1.86	− 1.24	1.03	0.0	5	23	8	0	se.	W. C. Frazer.
Blackburn	Pawnee	800	5	82.3	+ 2.4	101	9†	53	24	39	4.70	+ 2.30	1.80	0.0	7	25	5	1	s.	J. Landis.
Buffalo	Harper		3																	L. M. Brink.
Cache	Comanche	1,350	4	82.8		102	14†	64	16	31	1.00		0.58	0.0	4	22	7	2	se.	Frank Rush.
Calvin	Hughes	713	5								0.66	− 2.05	0.32	0.0	3	24	1	6	s.	Thomas Purcell.
Chandler	Lincoln	865	6	84.4	+ 2.8	104	9†	59	24	33	1.99	− 1.05	1.05	0.0	5	24	3	4	s.	Chas. L. Tuttle.
Chattanooga	Comanche	1,150	4			104	12	64	24	31	1.15		1.03	0.0	2	14	15	2	s.	Squire Humble.
Chickasha	Grady	1,091	9	85.6	+ 3.2	106	13	58	24	39	3.38	+ 1.24	1.16	0.0	4	27	4	0	s.	J. C. Good.
Cloud Chief	Washita	1,400	9	86.6	+ 5.2	111	12	61	23	38	0.18	− 1.91	0.18	0.0	1	20	10	1	s.	J. P. Stutzman.
Dacoma	Woods	1,337	12	82.2	+ 3.0	102	8†	56	22	35	1.93	− 1.98	0.58	0.0	7	28	3	0	s.	N. A. Andress.
Durant	Bryan	643	9	85.8	+ 5.1	107	31	63	24	33	0.76	− 3.89	0.48	0.0	3	20	9	2	s.	Nelson Houk.
Eldorado	Jackson	1,456	3	86.4		105	11	67	17	32	0.25		0.25	0.0	1	31	0	0	s.	R. D. Barnes.
Enid	Garfield	1,269	10	84.6	+ 4.0	104	8†	58	23	36	3.11	− 0.48	2.00	0.0	6	23	7	1	s.	Uri B. Worcester.
Erick	Beckham	2,058	6	83.8	+ 4.3	107	10	60	24	42	0.69	− 1.33	0.33	0.0	5	12	7	2	s.	Dr. J. D. Warford.
Fairland	Ottawa	839	10	81.8	+ 3.3	101	9	56	24	34	3.02	− 0.72	0.79	0.0	7	16	12	3	s.	C. W. Pryor.
Fort Gibson	Muskogee	556	5								1.38	− 2.44	0.98	0.0	4	21	2	8	s.	John T. Welsh.
Frederick	Gillman	1,293	6	85.5		103	10†	65	17	32	0.09		0.09	0.0	1	17	9	5	se.	B. B. Bradley.
Gage	Ellis	2,136	7	81.6	+ 4.8	104	31	53	13	46	2.72	− 1.16	0.71	0.0	6	24	5	2	s.	C. H. Holmes.
Guthrie	Logan	1,000	7	83.8	+ 2.6	104	4†	58	24	36	2.36	− 6.79	0.80	0.0	5	27	2	2	s.	G. W. Derrick.
Guymon	Texas		1																	A. L. Mordt.
Harrington	Roger Mills		8	80.0	+ 3.9	100	10†	58	23	37	3.51	− 0.11	2.74	0.0	5	23	8	0	se.	J. G. Harrington.
Hartshorne	Pittsburg	700	11	85.0	+ 3.9	102	14†	57	24	33	1.88	− 2.33	1.47	0.0	3	24	6	1	s.	Edward Glendenning.
Healdton	Carter	900	16	84.5	+ 3.0	104	13†	58	24	39	1.38	− 2.39	1.05	0.0	3	23	8	0	s.	A. C. Heald.

TABLE 1.—*Climatological data for July, 1909. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oklahoma—Cont'd.																				
Hennessey	Kingfisher	1,166	15	83.0	+ 2.2	106	10	56	22	36	4.40	+ 0.30	1.47	0.0	7	10	20	1	s.	W. W. Parks.
Hobart	Kiowa	1,396	6	86.2	+ 5.9	108	14	64	23	36	3.47	+ 0.91	1.60	0.0	4	25	4	2	s.	Roy Benedict.
Holdenville	Hughes	900	9	84.2	+ 4.3	106	31	58	24	35	0.00	− 3.20	0.00	0.0	0	28	3	0	s.	Miss M. Rutherford.
Hooker	Texas	2,999	4	78.4	.....	99	31	52	13	39	1.09	.....	0.60	0.0	5	9	5	17	s.	J. N. Kelly.
Hurley	Cimarron	.....	1	78.0	.....	105	11	54	12	41	2.54	.....	1.20	0.0	5	14	10	7	sw.	C. W. Myers.
Idabel	McCurtain	474	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. W. B. McCaskill.
Jefferson	Grant	1,062	16	83.2	+ 2.3	103	8	56	23	37	6.07	+ 2.61	3.58	0.0	8	22	9	0	s.	J. M. Maddy.
Kenton	Cimarron	4,000	10	78.0	+ 2.1	101	11	57	23†	37	2.44	+ 0.37	0.85	0.0	8	21	9	1	s.	L. A. Wikoff.
Kingfisher	Kingfisher	1,046	12	84.4	+ 3.5	106	10†	58	23	35	1.65	− 1.92	0.93	0.0	6	20	9	2	s.	J. C. Cross.
McAlester	Pittsburg	698	17	85.2	+ 3.4	106	31	58	24	35	1.48	− 3.03	1.48	0.0	1	24	4	3	s.	Wm. Noble.
McComb	Pottawatomie	1,200	15	84.8	+ 5.3	103	31	58	24	34	2.84	− 0.32	2.60	0.0	2	16	15	0	s.	Jas. E. McNair.
Mangum	Greer	1,585	17	85.8[h]	+ 4.1	106[a]	10	60	4	39	0.37	− 2.25	0.37	0.0	1	30	1	0	s.	Wade N. Johnson.
Marlow	Stephens	1,292	9	84.4[c]	+ 4.0	105	31	64[f]	24	31	0.31	− 1.96	0.13	0.0	3	22	1	8	s.	W. B. Anthony.
Meeker	Lincoln	1,030	16	83.8	+ 3.3	106	31	52	24	41	1.07	− 1.86	0.70	0.0	3	27	2	2	s.	Dr. John H. Baugh.
Muskogee[k]	Muscogee	614	11	84.2	+ 5.5	106	30†	61	23	33	1.25	− 2.47	1.25	0.0	1	22	6	2	s.	Prof. E. N. Collette.
Mutual	Woodward	.....	3	83.6	.....	106	10†	62	24	38	1.40	.....	0.84	0.0	3	23	5	3	s.	Thos. Martin.
Neolo	Caddo	1,500	4	84.8	.....	104	10†	59	24	36	0.47	.....	0.35	0.0	2	18	13	0	sw.	R. M. Schooling.
Newkirk	Kay	1,149	13	84.0	+ 3.6	106	8	55	14	43	6.56	+ 3.18	2.00	0.0	8	17	11	3	s.	P. H. Allright & Co.
Norman	Cleveland	1,171	16	84.4	+ 4.1	104	15†	65	21	32	1.77	− 1.54	0.85	0.0	7	17	12	2	sw.	Walter H. Meier.
Okeene	Blaine	1,194	6	84.9[b]	+ 4.9	106[b]	8†	58[c]	13†	40	2.42	− 0.49	1.17	0.0	7	19	9	1	s.	Dr. L. H. Murdock.
Oklohoma	Oklohoma	1,247	20	83.3	+ 3.5	102	14	62	23	33	1.35	− 2.30	0.92	0.0	4	18	8	5	s.	U. S. Weather Bureau.
Okmulgee[b]	Okmulgee	752	7	81.0	+ 2.0	100	31	56	24	31	1.40	− 2.63	0.68	0.0	5	24	6	1	s.	J. L. Maynard.
Pauls Valley	Garvin	880	10	85.5	+ 5.4	107	31	56	24	39	1.13	− 2.50	0.81	0.0	2	25	5	1	s.	H. M. Loomer.
Pawhuska	Osage	918	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. Foss.
Perry	Noble	1,060	12	82.4	+ 2.4	105	12	56	23†	37	5.09	+ 2.51	2.18	0.0	8	19	10	2	s.	J. A. Douglas.
Ravia	Johnson	796	8	86.7	+ 6.2	108	14†	64	24	34	0.62	− 3.14	0.56	0.0	2	27	2	2	s.	R. G. Guptill.
Sac and Fox Agency	Canadian	917	17	81.0[j]	+ 1.0	100[j]	31	55[k]	6	39	4.11	+ 0.93	2.45	0.0	3	17	5	0	se.	D. J. Henderson.
Shawnee	Pottawatomie	1,041	9	84.0	+ 2.7	104	10†	57	24	35	0.91	− 1.87	0.65	0.0	5	21	5	5	s.	Neal R. Clark.
Snyder[e]	Kiowa	1,356	3	85.4	.....	103	11†	68	17†	30	0.04	.....	0.04	0.0	1	20	7	1	s.	Dr. W. G. Woodard.
Stillwater	Payne	880	17	82.7	+ 3.1	102	12	56	24	33	4.12	+ 0.75	2.45	0.0	9	23	6	2	s.	John M. Speidel.
Supply	Woodward	.....	2	82.8	.....	104	31	53	13	42	2.03	.....	0.70	0.0	7	21	10	0	s.	A. H. Trimbo.
Temple	Comanche	925	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. F. Fitch.
Tusla (1)	Tusla	700	21	.....	.....	.....	.....	.....	.....	.....	4.12	+ 0.83	1.50	0.0	6	18	6	7	s.	William Hall.
Tusla (2)	Tusla	702	5	82.5	+ 3.3	103	9	60	24†	33	4.61	+ 0.41	1.43	0.0	8	22	8	1	se.	Miss Pearl E. Towers.
Vinita[b]	Craig	698	6	81.6	+ 3.9	103	9	56	22†	35	3.78	− 0.01	1.35	0.0	5	14	12	3	s.	Lyman Bros.
Wagoner[e]	Wagoner	588	13	84.2	+ 3.4	104	9	56	24	38	2.15	− 3.10	1.03	0.0	5	17	6	3	s.	S. L. Hatfield.
Waukomis	Garfield	1,258	13	83.2	+ 2.1	106	12	59	23†	38	3.91	− 0.35	1.73	0.0	8	19	11	1	se.	R. C. Shades.
Weatherford	Custer	1,639	8	86.0	+ 5.9	107	10	64	23	34	0.82	− 1.52	0.51	0.0	4	23	7	1	s.	M. D. Reed.
Webbers Falls	Muskogee	479	11	83.2[i]	+ 3.4	103[i]	13	60[i]	22	33	2.27	− 1.72	2.00	0.0	3	16	13	2	e.	B. D. Boulineau.
Whiteagle	Kay	945	4	82.5	+ 3.5	101	12	59	24	31	5.11	+ 0.55	2.50	0.0	9	19	10	2	s.	J. M. Dankwardt.
Woodward	Woodward	.....	1	82.5	.....	104	31	53	13	45	1.54	.....	0.86	0.0	8	24	7	0	s.	R. A. Boyle.
Missouri.																				
Belle[e]	Maries	.....	17	76.6	− 0.3	93	31	53	20	37	2.83	− 1.56	1.23	0.0	4	7	20	3	s.	A. J. Wofford.
Birchtree[e]	Shannon	1,200	15	76.9	+ 0.8	93	2†	56	20†	33	6.01	+ 1.47	1.98	0.0	6	22	4	3	sw.	V. H. Kirkendall.
Cape Girardeau	Cape Girardeau	346	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. L. Albert.
Caruthersville	Pemiscot	.....	18	79.8	+ 0.5	98	3†	59	24	34	6.57	+ 3.03	2.50	0.0	7	26	1	4	c.	H. E. Averill.
Dean[e]	McDonald	.....	10	80.2	+ 2.9	99	29	52	24	35	2.37	− 1.95	0.71	0.0	7	24	1	2	.....	H.E. Dean.
Doniphan	Ripley	440	5	77.0	.....	94	2	56	20†	31	9.55	+ 2.93	2.18	0.0	8	20	5	6	sw.	W. W. Martin.
Farmington	St. Francois	889	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Helen Montgomery.
Gano	Dent	.....	5	76.4	.....	95	6	53	24	35	4.42	.....	1.14	0.0	11	15	11	5	ne.	A. C. Leech.
Goodland[e]	Iron	900	4	74.4	.....	92	2†	49	20†	40	3.55	.....	2.12	0.0	7	21	1	8	s.	F. M. Adams.
Greenville	Wayne	.....	14	79.2	+ 1.5	97	3†	52	24	41	2.14	− 1.57	1.20	0.0	5	17	12	2	s.	A. G. Templeton.
Ironton	Iron	925	31	76.6	+ 1.1	97	2	46	20	45	2.68	− 1.95	1.05	0.0	8	11	12	8	s.	W. H. Delano.
Jackson	Cape Girardeau	458	18	79.0	+ 2.8	100	2	55	24†	36	3.99	+ 0.60	1.20	0.0	8	17	9	5	n.	L. M. Bean.
Joplin	Jasper	979	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Elizabeth Russum.
Koshkonong	Oregon	911	9	78.2	.....	96	29	58	20	26	6.00	+ 2.08	1.82	0.0	7	19	7	5	se.	J. W. Hitt.
Lamar	Barton	964	28	79.7	+ 1.7	97	30	56	24	31	4.33	− 0.13	2.24	0.0	8	17	6	8	se.	E. H. Adams.
Marble Hill	Bollinger	420	16	77.6	+ 0.8	96	2	54	24	35	4.15	− 1.06	1.70	0.0	5	19	9	3	s.	A. F. Hendricks.
Marshfield[e]	Webster	1,492	.....	77.1	.....	94	13	51	24	42	7.38	.....	2.50	0.0	10	11	7	9	sw.	O. P. Keeler.
Mt. Vernon	Lawrence	1,480	33	77.8	+ 0.2	94	30	52	24	32	6.70	+ 1.35	2.00	0.0	11	11	20	0	ne.	Dr. O. H. Brown.
Neosho	Newton	1,023	25	79.1	+ 1.7	97	9†	51	24	39	4.40	+ 0.06	1.13	0.0	10	26	3	2	s.	H. D. Dean.
Oakfield	Franklin	793	17	76.6	− 0.9	95	2	54	4	30	9.00	+ 4.47	2.89	0.0	13	8	17	6	s.	E. E. Steiner.
Olden	Howell	1,246	19	74.8	− 1.5	94	6†	41	20	43	2.97	− 1.13	0.75	0.0	6	20	8	3	sw.	J. D. Evans.
Perryville	Perry	582	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. L. Cayton.
Poplar Bluff	Butler	343	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. C. Thomes.
Sikeston	Scott	328	14	79.2	+ 1.2	98	2	57	20†	32	5.77	+ 1.44	2.80	0.0	7	19	6	6	sw.	A. A. Harrison.
Springfield	Greene	1,350	22	76.8	+ 0.4	92	12	59	23	27	9.51	+ 4.72	6.55	0.0	12	21	9	1	se.	U. S. Weather Bureau.
Steelville[d]	Crawford	1,746	12	79.2	.....	96	31	50	20†	40	3.14	− 0.01	1.33	0.0	5	19	4	4	se.	Edwin Pumphrey.
Willow Springs	Howell	1,300	16	77.2	.....	96	6†	52	24	32	4.85	+ 0.26	2.91	0.0	3	20	5	6	ne.	John Lovewell.
Kentucky.																				
Blandville	Ballard	445	29	75.7	− 2.4	91	27†	59	25	27	7.26	+ 3.15	2.81	0.0	9	12	11	8	sw.	E. W. Horr.
Lynnville	Graves	.....	8	76.6	.....	92	6	56	25	27	4.94	.....	2.92	0.0	8	17	9	5	sw.	Wm. Scherffius.
Tennessee.																				
Arlington	Shelby	.....	28	80.2	+ 0.8	100	29	60	20	35	1.90	− 1.96	0.90	0.0	4	15	8	8	s.	A. T. B. Etheridge.
Bolivar	Hardeman	450	25	79.0	+ 0.2	95	6†	59	25	29	4.34	+ 0.60	2.32	0.0	8	20	4	7	s.	Miss M. A. Smith.
Brownsville	Haywood	361	27	79.6	+ 0.4	97	29	53	21	41	2.77	− 0.78	1.97	0.0	4	14	13	4	s.	Miss Hattie N. Moss.
Covington	Tipton	311	27	80.4	+ 1.2	98	29	60	24	31	2.18	− 1.24	0.93	0.0	5	23	0	8	s.	J. S. Ruffin.
Dyersburg	Dyer	310	27	80.0	+ 0.8	96	29	62	25†	30	6.60	+ 3.01	4.05	0.0	5	16	6	9	se.	M. A. Sinclair.
Jackson	Madison	450	16	81.7	+ 3.0	101	27	57	25	35	2.46	− 2.39	1.39	0.0	4	15	7	9	sw.	T. H. Hartmus.
Kenton	Obion	.....	8	79.1	+ 1.4	98	6	57	20	32	6.98	+ 3.16	3.38	0.0	7	23	2	6	s.	G. S. Martin.
Memphis	Shelby	409	39	81.4	+ 0.7	94	3	64	20	24	1.09	− 2.42	0.48	0.0	5	13	9	9	sw.	U. S. Weather Bureau.
Milan	Gibson	440	27	77.6	− 1.7	94	3	58	25	32	3.71	− 0.16	1.11	0.0	9	12	5	4	s.	O. F. Cantwell.
Trenton	....do	345	28	78.2	− 0.1	96	29	55	20†	32	3.54	+ 0.38	1.04	0.0	6	21	7	3	sw.	Prof. F. L. Dennison.
Union City	Obion	360	14	80.2	+ 1.4	100	2†	56	20	36	5.74	+ 1.54	1.60	0.0	10	20	11	0	se.	Earl A. Kinzey.
Arkansas.																				
Alicia	Lawrence	.....	5	78.9	.....	97	29	59	25	28	5.95	.....	2.60	0.0	7	25	4	2	s.	McCullough & Guelck.
Amity	Clark	250	17	83.1	+ 3.0	106	31	59	24	35	1.86	− 2.06	0.92	0.0	5	16	12	3	sw.	Prof. S. M. Samson.
Arkadelphia (near)	....do	250	2	85.1	.....	105	11†	64	24†	32	1.51	.....	0.75	0.0	6	24	6	1	s.	J. A. Ross.
Arkansas City	Desha	145	26	.....	.....	.....	.....	.....	.....	.....	1.86	− 2.02	1.10	0.0	3	.....	.....	.....	.....	W. C. Blundell.
Batesville (1)	Independence	371	10	83.3	.....	105	28	58	20	37	1.68	.....	0.40	0.0	4	.....	.....	.....	.....	John Q. Wolf.
Batesville (2)	....do	271	5	.....	.....	.....	.....	.....	.....	.....	2.67	.....	0.84	0.0	8	.....	.....	.....	.....	Miss Lelia I. Feter.
Bee Branch	Van Buren	.....	17	83.0[a]	+ 3.4	105[a]	28	58[a]	19	37[a]	0.85	− 2.86	0.35	0.0	4	.....	.....	.....	.....	J. E. Scanlan.
Benton	Saline	283	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. E. Evans.
Bentonville	Benton	1,303	4	79.4	+ 0.9	98	30	55	24	35	2.22	− 2.09	1.34	0.0	7	21	9	1	s.	U. S. Weather Bureau.
Bergman	Boone	1,324	13	78.5	+ 2.6	104	3	50	21†	43	2.75	− 2.01	1.08	0.0	7	23	7	1	sw.	John T. Maxey.
Black Rock	Lawrence	.....	5	.....	.....	.....	.....	.....	.....	.....	5.04	.....	2.32	0.0	7	.....	.....	.....	.....	S. J. Howe.
Brinkley	Monroe	226	23	81.4	+ 1.6	100	29	60	20†	37	1.26	− 2.71	0.91	0.0	3	16	13	2	s.	H. L. D. Whitson.

TABLE 1.—*Climatological data for July, 1909. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Arkansas—Cont'd.																			
Calico Rock	Izard	361	5								2.16		0.68	0.0	6				W. H. Stoner.
Camden	Ouachita	158	24	83.2	+ 2.1	101	14	61	25	29	1.28	− 3.02	0.96	0.0	3	22	5	4	sw.	R. H. Quarterman.
Centerpoint	Howard		9	84.6	.....	103	31	65	24†	29	2.37	.....	1.62	0.0	2	19	11	1	sw.	J. M. Huddleston.
Clarendon	Monroe	171	5								1.81		0.73	0.0	6					Mrs. B. E. Bishop.
Conway	Faulkner	309	26	82.8	+ 2.4	103	28	60	24	33	1.93	− 1.64	0.53	0.0	8	15	14	2	s.	G. H. Burr.
Corning	Clay	293	17	79.7	+ 0.8	94	29	59	20†	30	6.10	+ 2.67	2.15	0.0	9	17	11	3	s.	Jacob Brobst.
Dardanelle	Yell	330	23								1.14	− 3.08	1.00	0.0	2					A. Bernard.
Dodd City	Marion	1,175	28	79.6	− 0.4	99	29	54	24	37	2.02	− 2.96	0.85	0.0	5	7	19	5	s.	Neal Dodd.
Dutton	Madison		8	77.6	.....	102	9	52	24	38	2.90	.....	1.91	0.0	3	15	16	0	s.	T. S. Williamson.
Earl	Crittenden		3																	W. J. Moss.
Eldorado	Union	265	5	83.3	.....	99	14	64	25	27	2.09	.....	1.53	0.0	7	20	1	10	sw.	Fred A. Babb.
England	Lonoke		3	83.0	.....	100	28	61	23	32	1.89	.....	1.25	0.0	3	13	18	0	sw.	J. C. Chenault.
Eureka Springs	Carroll		8	81.1	.....	103	29	54	21	36	1.44	.....	1.08	0.0	4	22	7	2	.....	Jas. T. Pomeroy.
Fayetteville	Washington	1,451	20	80.8	+ 3.4	99	9	55	21†	37	1.12	− 3.69	0.67	0.0	5	26	5	0	sw.	University of Arkansas.
Fort Smith	Sebastian	481	27	83.2	+ 2.2	100	30	65	24	27	2.74	− 1.10	2.37	6.0	4	21	8	2	e.	U. S. Weather Bureau.
Fulton	Hempstead	264	5								1.88		1.02	0.0	3					B. C. Logan.
Hardy	Sharp	643	11	78.4	.....	98	3	58	24†	31	6.94	+ 2.84	4.25	0.0	8	13	16	2	se.	C. A. Caywood.
Helena (1)	Phillipi	182	24	81.8	+ 0.4	96	29	65	18†	26	0.65	− 3.37	0.36	0.0	4	25	2	4	w.	Robert Kyle.
Helena (2)	do	182	8								0.78	.....	0.42	0.0	4					B. F. Modisett.
Hot Springs	Garland	600	3	82.0	.....	101	30	60	23	32	3.59	− 1.55	2.00	0.0	6	24	6	1	w.	Hot Springs Water Co.
Huttig	Union	85	2	84.0[a]	.....	99[a]	9	66[a]	25	28[a]	3.38	.....	2.41	0.0	5	.....	.....	.....	.....	C. A. Berry.
Jonesboro	Craighead	345	14	80.6	− 0.2	101	29	59	20†	38	2.70	− 1.90	2.10	0.0	5	13	12	6	se.	Benedictine Sisters.
Junction	Union		16	84.2	+ 3.6	101	9	68	31	28	2.81	− 1.05	1.27	0.0	5	.....	.....	.....	sw.	J. A. Lowderback.
Lacrosse	Izard		15																	R. E. Kennard.
Lake Farm	Jefferson	195	2	83.8	.....	101	14	63	24	30	2.81	.....	1.70	0.0	4	26	5	0	s.	R. H. Gillespie.
Lewisville	Lafayette	262	6	84.7	.....	102	31	63	25	31	1.89	.....	0.75	0.0	7	20	9	2	.....	F. W. Youmans.
Little Rock	Pulaski	357	30	82.4	+ 1.8	98	31	66	20	28	1.23	− 2.76	0.38	0.0	7	18	11	2	sw.	U. S. Weather Bureau.
Lutherville	Johnson	775	12	80.9	+ 2.1	101	29	57	21†	36	1.77	.....	1.35	0.0	4	24	7	0	sw.	Herman Hentschel.
McNeil	Columbia	321	2	85.0	.....	103	9	61	25	34	3.47		1.60	0.0	5	18	12	1	sw.	L. A. Smith.
Malvern	Hot Spring	277	22	82.8	+ 1.6	101	29	60	24†	31	3.67	+ 0.69	1.50	0.0	6	14	8	9	sw.	Miss L. C. Smith.
Mammoth Spring	Fulton		5	77.4	.....	94	6†	54	20†	34	6.58	.....	2.21	0.0	8	13	16	2	.....	F. Wallick.
Marked Tree	Poinsett		5								2.67		1.44	0.0	2					L. Smith.
Mena	Polk	1,100	23	81.5	+ 0.8	98	30	59	24	29	2.01	− 2.82	1.35	0.0	3	23	8	0	s.	D. H. Hopkins.
Mossville	Newton		16	77.2	+ 0.9	95	31	56	24	24	1.23	− 4.45	0.70	0.0	3	24	5	2	s.	Theo. Ober.
Mount Nebo	Yell	1,750	19																	T. G. Church.
Newport (1)	Jackson	231	25	82.6	+ 2.0	105	29	61	20†	37	2.25	− 0.86	1.10	0.0	3	23	3	5	s.	Mrs. A. B. Hillhouse.
Newport (2)	do	231	0								2.26		1.10	0.0	3					A. V. Hughes.
Ozark	Franklin	377	18	82.7	+ 0.4	100	9†	62	25	28	3.53	− 0.26	2.18	0.0	3	25	6	0	e.	R. M. Adams.
Pine Bluff	Jefferson	215	21	83.7	+ 1.3	103	31	62	24	32	1.69	− 1.85	1.32	0.0	6	25	2	4	sw.	J. H. Hudson.
Pocahontas	Randolph		17	80.4	+ 1.0	99	29	59	24†	31	6.17	+ 1.66	3.90	0.0	6	20	8	3	.....	Benedictine Sisters.
Pond	Benton	1,250	12	79.0	+ 2.4	98	30	51	21†	39	2.16	− 3.62	0.64	0.0	7	10	19	2	sw.	A. F. Stevens.
Portland	Ashley	122	0	83.8	.....	100	29	64	24†	32	2.52	.....	0.95	0.0	8	20	1	10	s.	T. A. Corson
Prescott	Nevada	327	21	83.4	+ 1.5	100	9†	64	25	26	3.37	+ 0.49	1.60	0.0	6	24	4	3	se.	A. M. Ellsworth.
Princeton	Dallas	287	8	83.0	.....	101	9†	59	25	32	1.93	.....	0.80	0.0	6	19	10	2	sw.	Capt. D. R. Feaster.
Rogers	Benton	1,385	18	78.7	+ 1.8	97	29†	54	21	36	1.68	− 2.91	1.20	0.0	6	23	7	1	s.	Carl A. Stark.
Russellville	Pope	348	24	83.0	+ 1.7	104	8	62	24	30	1.45	− 2.94	1.28	0.0	2	18	10	3	n.	J. F. Hodgins.
Spielerville	Logan	1,050	12	83.9	+ 4.1	104	12	62	24	32	2.29	− 1.54	2.29	0.0	1	22	6	3	sw.	New Subiaco Abbey.
Springbank	Miller	182	2								1.96		0.76	0.0	5					G. Field.
Stuttgart	Arkansas	495	22	82.0	+ 1.3	99	29†	62	20†	28	2.19	− 2.55	0.75	0.0	6	25	6	0	s.	H. A. Buerkle.
Texarkana	Miller	332	25	85.0[b]	+ 2.9	104	14	67[d]	24†	31	2.69	− 0.40	1.84	0.0	3	22	3	6	n.	W. B. Weeks.
Warren	Bradley	304	14	83.2	+ 1.3	100	14	64	24	29	3.25	− 0.56	1.40	0.0	5	9	17	5	s.	W. J. Savage.
Whitecliffs	Little River	206	5								2.80		1.80	0.0	5					John E. Payton.
Wiggs	Garland		16	81.2	+ 0.9	102	29†	55	24	35	1.52	− 4.34	0.73	0.0	3	17	14	0	sw.	S. D. Jester.
Wynne	Cross		1	82.0	.....	102	29	59	20†	31	1.04	.....	0.42	0.0	5	20	4	7	se.	R. R. Poole.
Mississippi.																				
Anguilla	Sharkey		1	84.0	.....	100	8†	62	24†	30	1.69	.....	0.67	0.0	6	3	18	10	s.	E. W. Cook.
Austin	Tunica	200	13	81.6	+ 1.3	97	3†	61	20	28	2.61	− 1.55	1.45	0.0	5	23	7	1	n.	H. J. Irvine.
Batesville	Panola	230	22	82.7	+ 2.5	101	29†	61	20†	33	0.83	− 3.56	0.30	0.0	5	26	0	5	s.	J. M. Cox.
Byhalia	Marshall	390									2.30		0.70	0.0	5	6	25	0	sw.	Tallahatchie Dng. Com.
Canton	Madison	228	19	82.4	+ 1.8	98	4†	61	25	33	1.85	− 2.39	0.81	0.0	6	10	20	1	s.	Dr. G. W. Smith-Vaniz.
Clarksdale	Coahoma	177	2	83.0	.....	99	5†	63	20†	33	1.69	.....	0.60	0.0	4	24	2	5	sw.	J. F. Durham.
Coffeeville	Yalobusha										0.67		0.30	0.0	4	18	13	0	e.	Tallahatchie Dng. Com.
Corinth	Alcorn	430	21	80.0	+ 1.2	98	29	60	20†	30	5.30	+ 0.09	3.88	0.0	7	.....	.....	.....	.....	Milton A. Chandler.
Crenshaw	Panola	187	.....								1.18		0.55	0.0	8	18	12	1	sw.	Tallahatchie Dng. Com.
Denmark	Lafayette										3.43		1.10	0.0	6					Do.
Duck Hill	Montgomery		10	83.2[a]	+ 3.2	102[a]	5	60[a]	24†	38[a]	2.20	− 2.62	1.50	0.0	2	22	6	2	se.	W. H. Eskridge.
Edwards	Hinds	222	22	82.4	+ 0.3	98	15	63	26	30	4.26	− 0.96	2.33	0.0	9	11	17	3	nw.	C. R. Knox.
Enid	Tallahatchie										0.63		0.29	0.0	3	17	14	0	s.	Tallahatchie Dng. Com.
Fayette	Jefferson	282	8	82.3	+ 2.1	97	15†	60	25	33	3.83	− 1.84	1.81	0.0	6	19	9	3	sw.	T. L. Darden.
Greenville	Washington	126	22	84.0	+ 2.2	101	5	62	24	30	3.00	− 1.30	1.80	0.0	6	26	1	4	se.	F. L. Harbison.
Greenwood	Le Flore	140	9	83.6	+ 2.8	101	14†	62	26	34	1.92	− 3.62	1.52	0.0	6	15	13	3	sw.	J. H. Stephen.
Grenada	Grenada										2.84		1.31	0.0	5	23	8	0	w.	Tallahatchie Dng. Com.
Hernando	De Soto	391	21	82.0	+ 1.8	99	29	60	20	31	2.86	− 0.90	1.00	0.0	5	25	1	5	se.	Miss Josephine G. Jones.
Hickory Flat	Benton	435									3.73		1.49	0.0	9	16	12	3	sw.	Tallahatchie Dng. Com.
Holly Springs	Marshall	600	22	80.1	− 0.2	94	3†	60	20	28	3.03	− 1.16	0.96	0.0	9	21	1	9	sw.	L. B. Mosby.
Kosciusko	Attala	430	19	80.4	+ 0.7	97	29	59	26	33	4.35	− 0.41	1.80	0.0	10	21	10	0	se.	E. L. Lucas.
Lake Cormorant	De Soto	206	.....	.....	.....	.....	.....	.....	.....	.....	1.79	.....	1.17	0.0	4	8	22	1	se.	Tallahatchie Dng. Com.
Lula	Coahoma	182	.....	.....	.....	.....	.....	.....	.....	.....	0.74	.....	0.42	0.0	3	23	8	0	.....	Do.
Malone	Marshall		.....	.....	.....	.....	.....	.....	.....	.....	1.45	.....	1.45	0.0	1	26	5	0	ne.	Do.
Marks	Quitman	163	.....	.....	.....	.....	.....	.....	.....	.....	2.24	.....	1.25	0.0	6	.....	.....	.....	.....	Do.
Natchez	Adams	206	21	84.9	+ 3.1	102	15	66	25	27	1.75	− 3.78	0.88	0.0	9	6	18	7	sw.	J. C. Weir.
New Albany	Union	398	.....	.....	.....	.....	.....	.....	.....	.....	1.93	.....	0.92	0.0	4	14	15	2	s.	Tallahatchie Dng. Com.
Pontotoc	Pontotoc	475	20	80.2	+ 1.3	94	29	62	25	24	5.78	+ 0.92	2.00	0.0	5	12	19	0	se.	Dr. C. W. Bolton.
Port Gibson	Claiborne	116	21	82.2	+ 1.1	98	4†	61	25	30	2.52	− 2.02	1.32	0.0	5	15	10	6	e.	H. H. Crisler.
Ripley	Tippah		10	78.6	+ 0.3	95	29†	56	24	29	2.55	− 1.86	0.80	0.0	5	20	9	2	sw.	S. W. Pegram.
Rosedale	Bolivar	143	1	83.4[b]	.....	99[b]	5†	63[b]	24	28[d]	2.08	.....	1.27	0.0	4	18	9	4	sw.	W. A. Shelby.
Senatobia	Tate										1.05		0.32	0.0	6	21	7	3	sw.	Tallahatchie Dng. Com.
Shoccoe	Madison		6	81.4[d]	+ 1.1	99[d]	29	60[d]	24	30[c]	2.44	− 1.76	1.54	0.0	3	21	5	2	w.	J. C. Pitchford.
Suffolk	Franklin		8	83.4	+ 3.1	100	4†	62	25	32	2.18	− 4.87	0.54	0.0	10	14	11	6	w.	Prof. Geo. H. Kent.
Swan Lake	Tallahatchie	148	8								1.25		0.50	0.0	3	.....	.....	.....	.....	B. F. Saunders.
Tuchula	Holmes	130	4	83.4	+ 2.9	100	5†	60	25	33	2.00	− 2.87	1.35	0.0	4	16	14	1	w.	Dr. M. P. Winkler.
University	La Fayette	502	17																	Prof. J. W. Johnson.
Utica	Hinds	287	5	81.8	+ 1.5	97	15†	63	25	29	4.08	− 0.70	1.20	0.0	11	9	12	10	s.	Dr. J. B. Dudley.
Vicksburg	Warren	247	38	82.5	+ 2.1	97	3	68	9	24	1.97	− 2.45	1.13	0.0	5	7	20	4	sw.	U. S. Weather Bureau.
Water Valley	Yalobusha	300	20	82.3	+ 2.1	99	28†	60	24	29	1.55	− 2.89	0.65	0.0	4	21	10	0	ne.	Miss Lula Erikson.
Woodville	Wilkinson	560	16	82.0	+ 0.6	98	4	64	25	27	4.55	− 2.93	1.06	0.0	11	21	10	0	se.	James E. Lee.
Yazoo City	Yazoo	116	15	83.6	+ 1.6	100	14	63	24†	29	1.39	− 3.17	0.51	0.0	5	21	2	8	se.	H. S. Orr.

TABLE 1.—*Climatological data for July, 1909. District No. 7*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Louisiana.																				
Abbeville	Vermilion	18	22	84.9	+ 3.6	101	15	70	31	25	4.16	− 3.52	2.37	0.0	10	14	13	4	sw.	Hon. C. J. Edwards.
Alexandria	Rapides	77	21	85.0	+ 2.6	103	14	64	25	28	4.00	− 1.78	1.35	0.0	18	15	3	13	s.	Miss Nellie Graham.
Amite	Tangipahoa	130	21	82.4	+ 1.2	99	4	64	25	27	7.56	− 0.29	1.50	0.0	11	9	21	1	s.	Miss Lula M. Wentz.
Baton Rouge	E. Baton Rouge	35	20	81.2	− 0.1	101	15	63	30	31	5.85	− 0.68	1.20	0.0	14	21	1	9	n.	Elmo M. Bott.
Burnside§	Ascension	20	9	84.9[b]	.....	97[b]	14	71[b]	17	25[b]	.....	.....	.....	.....	.....	.....	.....	.....	e.	C. S. McFarland.
Burrwood	Plaquemine	1	19	83.5	+ 1.1	93	7†	71	30	17	2.83	− 4.44	0.94	0.0	11	.....	.....	.....	.....	Graham Myers.
Calhoun	Ouachita	180	17	83.6	+ 2.4	101	14	60	25	34	1.29	− 3.27	0.88	0.0	6	9	21	1	ne.	N. L. Exp. Station.
Cameron	Cameron	6	14	83.0	+ 1.2	95	16	70	20	24	2.05	− 6.29	0.57	0.0	5	8	21	2	se.	State Biologic Station.
Cheneyville	Rapides	67	22	84.0	+ 3.5	100	8†	64	25	30	2.18	− 3.43	1.28	0.0	7	17	5	9	.....	Walter I. Tanner.
Clinton	East Feliciana	113	20	80.8	+ 0.2	93	14†	64	25	21	6.33	− 0.59	1.75	0.0	14	10	9	12	n.	John A. White, jr.
Colliston	Morehouse	65	7	83.9	.....	99	8†	65	23†	28	4.78	.....	1.59	0.0	7	18	6	7	.....	W. A. Page.
Covington	St. Tammany	39	17	83.0	+ 1.8	99	4	64	25	31	4.66	− 3.00	1.20	0.0	14	11	10	10	s.	C. Champagne.
Dodson	Winn	.....	1	83.8	.....	101	14†	64	25	28	1.63	.....	0.33	0.0	6	16	13	2	sw.	J. P. Lucas.
Donaldsonville	Ascension	33	19	83.2	+ 2.1	98	4	68	30	26	4.58	− 1.62	0.93	0.0	10	19	11	1	s.	John F. Park.
Farmerville	Union	177	19	83.0[b]	+ 1.9	98[b]	28	63[b]	24	27	2.43	− 1.99	0.83	0.0	6	17	9	5	s.	W. P. Chandler.
Ferriday	Concordia	.....	3	82.1	.....	97	5†	60	25	28	1.46	.....	0.38	0.0	9	23	0	8	sw.	R. Z. Slater.
Franklin	St. Mary	10	17	83.9	+ 2.0	99	14	70	30	25	8.29	− 1.46	3.00	0.0	17	18	5	8	s.	Miss Josephine M. Bonney
Grand Cane	De Soto	302	3	84.2	.....	101	14†	55	21	34	1.92	.....	0.75	0.0	5	12	5	14	s.	J. J. Paxton.
Grand Coteau	St. Landry	93	17	83.4	+ 2.2	100	14	70	17†	26	4.80	− 1.70	1.15	0.0	10	14	16	1	se.	St. Charles College.
Hammond	Tangipahoa	44	10	82.6	+ 1.0	99	4	62	25	31	4.90	− 1.48	1.38	0.0	8	17	12	2	sw.	C. C. Carr.
Houma	Terre Bonne	.....	17	83.0	+ 1.9	97	4†	69	16	25	3.27	− 5.97	1.00	0.0	6	12	16	3	s.	J. M. Haggerty.
Jennings	Calcasieu	30	11	84.1	+ 3.0	99	14	71	17	24	4.73	− 1.23	3.58	0.0	13	0	30	1	se.	J. H. Buch.
Lafayette	Lafayette	36	22	82.2	+ 1.0	97	14	70	17	23	3.52	− 3.41	1.05	0.0	12	17	6	8	w.	J. J. Davidson.
Lake Charles	Calcasieu	22	21	81.8	+ 0.6	103	15	67	22	30	5.24	− 1.23	1.55	0.0	10	23	4	4	s.	A. O. Boudreaux.
Lakeside	Cameron	.....	8	83.5	.....	98	14	68	31	24	6.38	.....	2.47	0.0	8	22	0	9	sw.	L. J. Nunemacher.
Lawrence	Plaquemine	6	19	83.8	+ 1.2	100	5	69	30	25	5.69	− 1.55	1.20	0.0	14	23	3	5	s.	H. C. Warmoth.
Liberty Hill	Bienville	.....	22	87.7	+ 5.4	107	14	61	25	37	1.50	− 3.64	0.44	0.0	7	21	5	5	s.	Dr. E. A. Crawford.
Logansport	De Soto	192	4	.....	.....	.....	.....	.....	.....	.....	2.13	.....	1.71	0.0	4	.....	.....	.....	s.	Mrs. Bettie M. Dennis.
Melville	St. Landry	45	22	82.6	+ 0.9	97	13†	65	25	28	2.60	− 3.20	0.96	0.0	8	12	11	8	s.	Chas. B. McNeill.
Minden	Webster	194	21	83.8	+ 1.5	102	15†	63	25	33	1.87	− 2.33	0.85	0.0	8	14	13	4	s.	Miss Ethel Fort.
Monroe	Ouachita	82	22	82.7	+ 0.5	95	3†	64	25	25	1.78	− 2.98	1.32	0.0	3	27	0	4	e.	Eugene Stannard.
Morgan City	St. Mary	14	4	.....	.....	.....	.....	.....	.....	.....	2.36	.....	0.54	0.0	10	.....	.....	.....	.....	Virgil E. Kinsey.
Newellton	Tensas	.....	2	82.7	.....	98	14	63	25†	29	3.85	.....	1.75	0.0	5	12	16	2	s.	John D. Fultz.
New Iberia	Iberia	15	19	84.5	+ 3.2	100	8	70	31	26	5.75	− 1.84	2.00	0.0	9	0	28	3	se.	Mrs. Jno. A. Gebert.
New Orleans (1)	Orleans	15	35	83.2	+ 1.9	96	4	72	30	18	4.85	− 1.62	1.58	0.0	14	4	14	12	w.	U. S. Weather Bureau.
New Orleans (2)	....do	18	22	83.0	+ 0.7	95	4†	70	25	21	3.71	− 2.83	1.54	0.0	14	8	9	14	s.	Sugar Exp. Station.
New Orleans (3)	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.18	.....	1.37	0.0	.....	.....	.....	.....	.....	Sewerage and Water Board, New Orleans Drainage Commission.
New Orleans (4)	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.47	.....	1.51	0.0	.....	.....	.....	.....	.....	
New Orleans (5)	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.43	.....	1.57	0.0	.....	.....	.....	.....	.....	
New Orleans (6)	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.73	.....	1.70	0.0	.....	.....	.....	.....	.....	
New Orleans (7)	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.40	.....	1.86	0.0	.....	.....	.....	.....	.....	
New Orleans (8)	....do	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.31	.....	1.72	0.0	.....	.....	.....	.....	.....	
Opelousas	St. Landry	83	18	84.0	+ 2.6	102	15	69	25	30	2.31	− 4.28	0.98	0.0	11	8	13	10	s.	Andrew Moresi.
Pearl River	St. Tammany	.....	3	.....	.....	.....	.....	.....	.....	.....	5.53	.....	1.58	0.0	18	.....	.....	.....	.....	George F. Bancks.
Plain Dealing	Bossier	268	17	84.5	+ 3.2	100	14	68	25	28	4.23	− 0.87	2.26	0.0	5	12	12	7	sw.	Leon Sanders.
Rayne	Acadia	44	18	83.9	+ 1.8	99	14†	69	16	26	6.27	− 0.56	1.20	0.0	11	17	0	14	s.	A. P. McNeil.
Reserve	St. John Baptist	.....	8	79.1	.....	98	5	62	30	31	7.09	.....	1.54	0.0	11	0	21	10	.....	Leon Godchaux Co.
Robeline	Natchitoches	147	14	84.6	+ 3.7	102	14	65	26	32	2.05	− 2.65	1.52	0.0	2	21	2	8	s.	Miss Ruby McCook.
Ruston	Lincoln	312	13	85.2	+ 3.3	100	11†	69	25	20	0.85	− 5.05	0.60	0.0	2	19	9	3	s.	J. C. H. McKinney.
Schriever	Terrebonne	17	18	84.0	+ 2.3	102	4	69	30	28	5.37	− 4.74	1.74	0.0	8	21	1	9	se.	Charles V. Moore.
Shreveport	Caddo	249	37	84.4	+ 2.3	100	13	70	25	23	1.42	− 2.30	0.67	0.0	4	20	6	5	se.	U. S. Weather Bureau.
Simmesport	Avoyelles	.....	4	.....	.....	.....	.....	.....	.....	.....	3.37	.....	1.40	0.0	9	.....	.....	.....	.....	W. P. Denny.
Southern Univ. Farm	Jefferson	.....	14	.....	.....	.....	.....	.....	.....	.....	5.06	− 0.81	1.30	0.0	14	6	15	10	se.	F. L. St. Martin.
St. Francisville	West Feliciana	115	5	82.2	.....	100	15	62	20	32	3.18	.....	1.85	0.0	6	16	9	6	s.	L. P. Kilbourne.
Sugartown	Calcasieu	.....	17	84.1	+ 2.5	97	13	69	31	23	3.02	− 2.15	0.82	0.0	6	0	30	1	.....	G. W. Richardson.
Tallulah	Madison	91	1	83.5[b]	.....	100[b]	14	61	25†	34[b]	2.13	.....	1.05	0.0	5	3	28	0	.....	G. P. Blair.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2—*Daily precipitation for July, 1909. District No. 7, Lower Mississippi Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																																	
Blaine	Cimmaron					.60	.08							.04	.08								.20					.10			.08		1.18
Buena Vista	Arkansas			T.	T.	.75									T.	T.							.88	T.			T.						1.63
Calhan	Big Sandy				.70	.79	.23	T.	.05						.07	.19					T.			.15	.43					.08		.17	2.86
Canon City	Arkansas						T.		.15	.03													.30		.03								0.51
Colorado Springs	Fountain			.02	.90	.03	.24	.09	T.		T.			T.	.17	T.					.09	T.	.01	.02	.37			T.					1.94
Cripple Creek	Oil Creek	.41		.19	T.	.55	T.									.24	.24			T.	.20		T.	.63	.60								3.06
Cuchara Camps	Cucharas				.22	.11	T.		.08						.42				.23		.73												1.79
Eads	Big Sandy					.24		.70							.37										.30	.39		.25					2.25
Fairview	St. Charles				.50	.11										.21								.60									1.42
Florence	Arkansas				1.20																	.15					.16						1.51
Garfield	Little Arkansas	.09	.08	.41	.19	T.			T.					.02	.24				.07	.05	.06	.40	.36	.08	.19		.20						2.44
Glen Eyrie	Fountain			.49	.89	.10	.09		1.02		.05			.25	.06									**	.50								3.45
Hamps	Big Sandy				.02	1.94	.93				.07			.04		.01								.56		.02			.35				3.94
Hermit Lake	Grape Creek																																
Hoehne (near)	Purgatoire					T.	.16								.10	.70						.10	.60		.14					T.	.30	2.10
Holly	Arkansas					.55	.32	.78							20							.10			15	1.63							3.73
Lake Moraine	Fountain			.05	.25	.27	.04	.02	.02		.03			.02	.75	.20	.03					.36	.20	.63		1.00						.02	3.89
Lamar	Arkansas					T.	.14	T.			T.				.04											.13			1.28				1.59
Las Animas	do					.15	.13			.33	.13			.57											.34					T.			1.65
La Veta Pass	Cucharas				.10	.12	.80								T.	.36							.19					T.			T.	T.	1.57
Leadville	Arkansas	T.	.01	.43	.54	.18	T.								.04	T.		T.		.06	.41	.04	.08	.30	.09	T.	.10	.06						2.34
Limon (near)	Big Sandy					1.70	.79		.03		.13										T.			.18	.04					.30			3.17
Marshall Pass	Arkansas		.13	.10		.14													.40		.14	.43	.35	.04	.18			.26					2.17
North Lake	Purgatoire																																
Pueblo	Arkansas			.19	T.	.41	T.	T.	T.						T.	T.					T.	.07	.12	T.	.17		T.			.18	T.	.07	1.21
Rockyford (near)	do																																
Saint Elmo	Chalk Creek	.21		.23	.20	.45	.06								T.	.17				.09	.55	.09	.77	.41			.40	T.						3.43
Salida	Arkansas			.10	T.	.11									.15							T.	.40	.10	.10		.09						1.05
Santa Clara	Cucharas				.02	.35	.11		T.						.19	.45	.31			.11	.88	.04	.06	.03	.09						.04	.02	.01	2.71
Sheridan Lake	Arkansas				T.	.19	.28	.25						.42									.51				3.00	T.					4.65
Stonewall	Purgatoire			.03		.11	.14		T.	.08					.24		T.		.07	T.	.01	.55	.19	.25	.24	.01				.10	.08		2.10
Trinidad	do																																
Victor	Oil Creek	.20		.47	.10	.32	.10		.04						.10	.26	.61	T.				.10	.12	1.63	.07	.10		.05		T.			4.27
Vilas	Cimarron					1.04	.14							T.								21	.06			.46							1.91
Westcliffe	Grape Creek			.03	.12	.18	.05									.04	.30		.02			.79	.06	.05	.63								2.27
Winfield	Clear Creek		T.	.51	.10	.27									T.	T.		T.	T.		T.	.21	.10	.36	.06		.15	.04			T.		1.80
Wortman	Arkansas		.30	.20	T.	.20	T.	.30	T.	T.	T.			.20	.30	.50	.40	1.00	T.	T.	T.	T.	.40	.23	.31	2.00	.50	T.	T.	T.			6.84
New Mexico.																																	
Abbott	Canadian				.75		.05								.27							.40				.42							1.89
Albert	do							T.							.06	.04	.03					.40			T.					.11			0.64
Arch	Red																																
Aurora	Canadian			.26	.26		.09							.02	.02	.11	.19				.71		.03			.06					.02	1.77
Bell Ranch	do	.05		.68		.06	.33	.06						.43	.23	.09									.16	1.25	.21				.42	.04	4.01
Black Lake	do																																
Cabeza	do		.07				.05							.08	.01											.20				.36	.10	0.87
Campana	do	1.01					.17							.10		.06		.02								.16				.34	.11	1.97
Chacon	do																																
Cimarron	do			T.	.24	T.	.16			.04				T.	T.	.02					T.	.65	.30	.03	.04	.01	T.			T.	.21	1.70
Clayton	do						.42			.77						.32						T.			.34					.05	T.	1.90
Cuervo	do		.40		T.	.45									.02	.24										.92						2.03
Dawson	do			.10	T.	.37	.05							.03	.02	.22	T.						.13	.05	.20							.58	1.75
Dorsey	do		.36		.05		.55	.07		.36	T.				.15	T.	.03	.27				.16	.04	.16	.15	1.35							3.70
Elizabethtown	do			.04	.94		.50									.20			.24		T.		.54		.32						.20	2.98
Fort Union	do		.12		T.	.05	.20		.30						.10		.65	.10			.60	.08				.55					.05	.08	2.88
Hayden	do		.20					.21			.07				.41	.32							.09			.56							1.86
Lake Alice	do					.39			.86							.15									23						.13	1.76
Logan	do		.57		.93			.04							.12	.14		.30															2.10
Los Alamos	do		.10			.30			.15					.28		.08	.25			.05	.90	.05			.48								2.64
Maxwell City	do						.11		.18					.14			.13				.01		.04	.33	3.00							.03	3.97
Melrose	Red		.81		.07	.15		.20							.05		.06	T.		.02				.04	.07								1.47
Miami Ranch	Canadian			.03	T.	T.	2.72							.25								.21		.21	.05							.30	3.77
Montoya	do		.70	.03				.20		.02	.07						.07	.02									.05						1.16
Nara Visa	do		.38		.14		T.	.12			.56				.71	.31				T.				T.		.12	.25						2.59
Raton	do			T.	.01	.02	.15			.52	T.			.01	.01	.04	.01					.05	T.		.82	.03	.06			.30	.10	2.13
Rociada	do			**	.73	.37	.38						.04	.05	.02	.24						.83	.42	.22	.48	.16				.13			4.07
Roy	do							.24							.11		.13								.95								1.43
San Jon	do		.15		T.	.90	T.		.29		.05				.13	.06	T.	T.		T.							.09		T.		T.		1.67
Solano (1)	do						.39		.20						.08	.25	.04						.09	.04		.01				.14	.22	1.46
Solano (2)	do						.39		.20						.08	.25	.04						.09	.04		.01				.14	.22	1.46
Springer	do																																
Taylor	do		T.			.04	.11	.02		T.					T.	T.	T.	.41				.02	.17			.63	.54						1.94
Trementina	do				.50			T.			T.				.44	.01	.31	T.			.01	T.		.46			.09				.64	T.	.08	2.54
Tucumcari (1)	do		.64			.06			.39						.54			.08									.32						2.03
Tucumcari (2)	do		.73			.11			.35						.46												.25						1.90
Vermejo Park	do				.08			.90	.20						T.			.30	.10			T.	1.10	.60	.90	.10						.25	4.53
Wagon Mound	do		.05				T.	.55		T.	.12			.01	.18	.41	T.				.01	.01	.31			1.13					.67	.03	3.48
Texas.																																	
Amarillo	Canadian	1.18		.02	T.		.67		.82	.20					.01					T.						.10	.63						3.63
Arthur	Red																T.						.08									.22	0.39
Bonham	do																																
Canadian	Canadian																																
Channing	do														.93											2.00							2.93
Childress	Red																																
Chillicothe	do																.24						.03					22					0.49
Clarendon	do			T.					.27						T.	T.										1.75							2.02
Clarkesville	do	2.20	.05													1.06	T.		.18		T.				T.								3.49
Claude	do	1.75							.10								.20									2.01	.03						4.09
Dalhart‖	Canadian						.19							.14	.44											.50							1.27
Denison	Red				T.													.20		.20			.04										0.44
Henrietta‖	do			.35	T.																				.35		T.						0.70
Hereford	do	.47	T.		.20				.25	.85							.50					T.				.42	T.						2.69
Higgins	Canadian																																
McLean	Red																																
Memphis	do	T.		T.	.10				T.								.35									.75							1.20
Miami	Canadian								T.		2.60				.20	T.										.98							3.78
Mobeetie‖	Red																									1.00							1.00
Nazareth	do			.02					1.09		.20				.05	.02							.10	.20	1.50	T.							3.18
Ochiltree	Canadian	.36							.77					.36	.06										.95								2.50
Pampa	do									1.50			.60				.10	T.	.35						1.10	.05							3.70
Paris‖	Red																.48																0.48
Plemons	Canadian	.13				T.	.02		.28	T.	.02			.05	.42	.02										.94	.88						2.76
Quanah	Red	.70	.30																					.30			.23	.04					1.57
Sherman‖	do																.12			T.			T.										0.12
Sulphur Springs	do																																
Texline	Canadian																																

TABLE 2.—*Daily precipitation for July, 1909. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																																	
Tulia	Red	T.	T.	.34						.66	T.					T.	T.	T.					.77	T.	T.	1.38	.02					3.17
Wichita Falls	do																																
Kansas.																																	
Anthony	Arkansas	.52			.02			.09		1.94					1.66	T.	T.						.11			.45	.48	.33					5.60
Ashland	Cimarron	.11	.36		.08					.75			.34		.79	.02	.14						.05			.05							2.69
Burlington	Neosho						1.22			3.47	.03	.22			.50	T.							.07			1.42	.29	.03			.05	.67	7.97
Chanute	do						.80		2.04						.64											1.01			1.99				6.48
Cimarron	Cimarron	T.				T.	T.	.23							1.02											.41	.10				.24	T.	2.00
Coldwater	do				T.			.24	.25	.29		T.			1.59		.03						.04			T.	.05	.93		T.			3.42
Columbus	Neosho				.06			.25			1.82	.02	**	.45	.72	.07							T.			.46	T.	.06	T.			.60	4.51
Coolidge	Arkansas					1.75	.40								.15											3.27							5.57
Cottonwood Falls	Neosho	.06						1.12	1.41	.80	1.49	.07	.13		.94	.02							.25			3.40		.35		.13		.02	10.19
Council Grove	do	.03					5.02	.03		4.05	.03				.05	.03										1.05		.05					10.34
Cunningham	Arkansas	.20			T.	T.			1.10	.05					.75	.40							T.			T.	T.				T.	T.	2.50
Dodge City	do						.84	.10		.16				.62	.30	T.	.09						.01			.40	T.				.07		2.93
Eldorado	do	.12						.18			.80		.01		.95	.55							.15			.47		.42					3.65
Ellinwood	do	T.				.12	.05	.31	.23	.02		.07			1.29	T.	T.					T.	.45		T.	.40	.65	.07	.01	.40	.28		4.35
Emporia	Neosho	.10					2.00	.30	.33	2.35	.08	.16			.44	.07							.09			2.97	.34	.05			.07	.50	9.85
Eureka	Verdigris	.39						.23		.08	1.06	T.	.06		1.10	.39							.24		T.	1.30	.55	.12				.04	5.56
Fall River	do	.75			.03			.10	T.		3.40				1.10	T.							.02		T.	.50	T.	.50				.02	6.42
Fargo	Cimarron								.32							.32										.03			T.		T.	0.67
Fredonia	Verdigris	.06			T.			.02	.06		1.57				1.87								T.		T.	.57	.35	.46				T.	5.16
Garden City	Arkansas					.64	.60								1.87		.53									1.20		T.		1.17	.21		6.22
Great Bend	do																																
Greensburg	do	.04				.11		.28	.40	.04					.84								.20			.05		.04					2.00
Grenola	Verdigris				.28			T.	T.		1.89				1.77	.28							.02			.33	.22	.94					5.73
Howard	do								T.		2.18				.80										T.	.15	1.20				T.		4.33
Hugoton	Cimarron							.66		.25					.80								.60										2.31
Hutchinson	Arkansas				.05	.02		.43	.07		.50	.05			.67	.62							.26			.54	.69	.53				.07	4.52
Independence	Verdigris	.04			.29					.02	1.24		T.	.01	1.09	T.									T.	.42	.04	.52					3.67
Iola	Neosho				.13			.68		.07	1.71	.01	T.		.32	.02							T.			.89	.27	.50			T.	.55	5.15
Jetmore	Arkansas					.08		.90	1.07	.04					.52								.04		T.	.55	T.			1.20	.43		4.83
Kingman	do	.12							.26		.16				.65	.30	T.									.08	.03	.17					1.77
La Crosse	do	.16			.06	.89	.05	.82				.16			.46							.38			.03	.28	.02	.04			1.07		4.42
Lakin	do					.10	.41								.72		T.									2.10		.04			.40		3.77
Larned	do	.04				.05	.11	.31	T.		T.				.61	.12	T.						.08			.23	.12	.13		.15	.15		2.10
Lebo	Neosho	.10			T.			3.06	.79	.20	3.37	.07	.19		.51	.43							.05			2.05	.45	.06			.02	1.40	12.75
Le Roy	do	.02			.19			.82			8.20	.03	T.	.25	.46	.04	.04					T.				1.54	.51	.08				.85	13.03
Liberal	Cimarron																																
Macksville	Arkansas	.26	.07		T.			.20	T.	.17	T.			1.20	T.							.10			.05	T.					T.	.78	2.83
McPherson	do	1.22	.02			.78		.38	.08		.86	.17			.78								.28			.76		.29			.52		6.14
Madison	Verdigris	.54						.90	T.	.65	3.44	.03	.51		.65	.86							.12			1.85		.04				.20	9.79
Marion	Neosho	.40					1.32	.62	.57	3.60	.10					.39	T.						.30		.03	1.53	.39	.01			.06	T.	9.32
Medicine Lodge	Arkansas	.05			.05			.20		.11					1.07								.04		T.	.25	.38						2.15
Medora	do						.56	.35		1.12	T.				.66	T.	T.				.30		.93		.10		.30				.09	.03	4.44
Mt Hope	do	.14						.13	.08	.48					.71	.08	.07						.28			.45	.24	.29					2.95
Neosho Rapids	Neosho						3.00	.70		2.70	.04	.09			.50		.58						.05			.06	2.22	.44			.01	.82	11.21
Ness City	Arkansas								.07	T.			.44												.25	.75			.49			2.00
Newton	do	.18						.10	.10	.50	.60	T.			1.08	.04							.44			1.26	1.00	.76			.21		6.27
Norwich	do	.04			T.				.05		.40	T.			.61		.10						.06		T.	.07	.13	1.27					2.73
Oswego	Neosho				.06			.20		.03	1.58			.10	1.00	.04										.02	.25	.08				.13	3.49
Pratt	Arkansas						2.00							.65	.64	.91					.07					.21					T.		4.48
Rome	do	.10								1.15					1.20	1.24	.11									.27	.15	3.05					7.27
Sedan	Verdigris	.13				.06				.93					1.05	.12											1.79		.80			.10	4.98
Toronto	do	.05	.05		.45			.20	.05	2.10					.70	.05							.05		1.60	.20	.05					.20	5.75
Ulysses	Cimarron					.83		.37		.32				.30											.48								2.30
Walnut	Neosho				.20			.55	T.				1.26	T.	T.				.24				T.		T.	.72	.03	.30		T.		.52	3.82
Wichita	Arkansas	.04						.04	T.	.45	.24	T.			.66	.61	T.						.10	T.	.20	.08	.84				T.		3.26
Winfield	do								T.		1.55				.75	.35							.33			.35		2.50					5.83
Yates Center	Verdigris	.47			.11			.67		**	2.30		T.		.94	.11							.04		T.	.78	.03	.08			T.	.28	5.81
Oklahoma.																																	
Ada	Canadian		.26													.05	T.		T.	T.			.15			T.		.23				T.	0.63
Alva	Arkansas																																
Apache	Canadian															.02							T.				.07	.20					0.29
Arapaho	Washita													.19													.38						0.57
Ardmore	Red																												.18			T.	0.18
Bartlesville	Arkansas				.03						.45				1.20	1.43										.16	1.87	.85					5.99
Beaver	Canadian	.02							1.03						.35	.11										.35	T.					T.	1.86
Blackburn	Arkansas	.31			.12						.14				.17	.83											1.33	1.80					4.70
Buffalo	Cimarron																																
Cache	Red		.22	.10																							.58					.10	1.00
Calvin	Canadian															.32	.12				.22												0.66
Chandler	do					T.									1.05	.17	.07									T.	.05	.65	T.				1.99
Chattanooga	Red															1.03											.12	T.					1.15
Chickasha	Washita															1.16			T.			1.00				.42	.80						3.38
Cloud Chief	do															T.	.18										T.	T.					0.18
Dacoma	Cimarron				.32					.10	.22				.43											.07	.58	.21					1.93
Durant	Red			.48							T.							T.	.16					.12					T.				0.76
Eldorado	do																	.25															0.25
Enid	Cimarron									.07	.15					.13	.12										.64	2.00					3.11
Erick	Red	.09		.33								.10				.10											.07						0.69
Fairland	Arkansas				.07			T.	T.		.57				.73	.13										.69	.79	T.				.04	3.02
Fort Gibson	do												T.		.11	.98	.03	.26											T.				1.38
Frederick	Red							T.								.09							T.	T.									0.09
Gage	Canadian	.62			.25					.43					.71											.42	.29						2.72
Guthrie	Cimarron											.30				.39	.77										.10	.80					2.36
Guymon	Canadian																																
Harrington	Red	2.74			T.							.22			.20	.05											.30						3.51
Hartshorne	Canadian														1.47			.37					.04										1.88
Healdton	Red		T.													.06						1.05				T.	.27					1.38
Hennessey	Cimarron	1.47										.10			.36	.25	.17						T.			1.15	.90						4.40
Hobart	Red		1.40													.06	1.60		T.							T.	.41						3.47
Holdenville	Canadian																																0.00
Hooker	do	.02					T.		.10	T.					.24					.13						.60	T.						1.09
Hurley	do					T.	T.						.04	1.20	T.	.20										.35					.75		2.54
Idabel	Red																																
Jefferson	Arkansas	.18							.12	.66					.31	.21											.46	.55	3.58				6.07
Kenton	Cimarron				.32	.18	.85		.10						.82		.10				.01				.06	T.				T.	T.		2.44
Kingfisher	do	T.									.21	.29				.16	.06											.93					1.65
McAlester	Canadian														1.48																		1.48
McComb	do															2.60										.24							2.84
Mangum	Red																	T.										.37					0.37
Marlow	Washita															T.				.10								.13	.08				0.31
Meeker	Canadian															.70											.07	.30					1.07
Muskogee	Arkansas														T.	1.25	T.																1.25

TABLE 2.—*Daily precipitation for July, 1909. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oklahoma—Cont'd.																																	
Mutual	Canadian									.30																.84	.26						1.40
Neola	Washita															T.							T.				.35	.12					0.47
Newkirk	Arkansas	T.			.55						1.02				.87	1.30	.20									.55	.07	2.00					6.56
Norman	Canadian				T.		.35								T.	.15	.07		.02	.01			.32				.85						1.77
Okeene	Cimarron				T.							.14			T.	.19	.39	.01								.11	1.17	.41					2.42
Oklahoma	Canadian			T.								T.			.01	.92	T.										.39	.03				T.	1.35
Okmulgee	do	.68					.06				.08				.07												T.	.51					1.40
Pauls Valley	do															T.	.81									T.	T.	.32					1.13
Pawhuska	Arkansas																																
Perry	do	.65			T.				.07		.10				.13	.41	2.18									.61		1.54					5.09
Ravia	Washita																		.56									.06					0.62
Sac & Fox Agy	Canadian							1.50									2.45			T.							.16						4.11
Shawnee	do				T.										T.	.07	.02	.65		T.								.12	.05				0.91
Snyder	Red																.04										T.						0.04
Stillwater	Cimarron	.01									.01		T.		.05	.23	.05	.71									.20	2.45	.41					4.12
Supply	Canadian	.55								.09	.15	.19			.70								.09				.26							2.03
Tulsa (1)	Arkansas										.30			.43	1.50												1.16	.11	.62					4.12
Tulsa (2)	do	.65									.30				.40	1.43	.08										1.24	.01	.50					4.61
Vinita	do				T.		T.	.13	T.	T.	.50	T.			.80	1.02									T.	1.35							3.78
Wagoner	do	.35									.05				.35	1.03	.37																	2.15
Waukomis	Cimarron								T.		C.2				.03	.20	.02			.66			T.			.40	.85	1.73					3.91
Weatherford	Canadian					.03										.13		.51										.15					0.82
Webbers Falls	Arkansas	.22									T.				2.00	.05																	2.27
Whiteagle	do	.21			1.54						.31				.20	.04	.03									.05	.23	2.50					5.11
Woodward	Canadian									.05	.16	.03			.86	.02										.16	.25	.01					1.54
Missouri.																																	
Belle	Meramec							.32	T.		.93															T.	1.23	.35		T.			2.83
Birchtree	Black								1.98		.73																.28	.75		1.68	.59		6.01
Cape Girardeau	Mississippi																																
Caruthersville	do							2.50	1.20		T.					.72							.85	.15			1.95	.10					16.57
Dean	Neosho				T.			.07			.36				.71	.30										.22	.25	.46	T.				2.37
Doniphan	Black							2.18	.95		.28	.51		.18												1.40				1.87	2.18	9.55
Farmington	Mississippi																																
Gano	Meramec				.10			.14	.78		.68	.04	.03	1.11	.20												.69	.34				.31	4.42
Goodland	Black								.30		.32	.18	.12		.13	.38												2.12					3.55
Greenville	Mississippi							.50	.20		.06	.18															1.20		T.				2.14
Ironton	do				T.			T.	.13			.35	T.	.35		.05	T.							.15			.15	.90	.15			.45	2.68
Jackson	Mississippi							.53			.16			.05		.03							.06				1.20	1.05				.91	3.99
Joplin	Neosho																																
Koshkonong	Black								1.82		.47	.11		.03	T.	.53	.02										1.00	.50		1.49	.03		6.00
Lamar	Neosha	T.				.35					2.24		T.	.24	T.	.36											.39	.03			.10	.62	4.33
Marble Hill	Mississippi							1.70		.10		.20				.55											1.60						4.15
Mt. Vernon	Neosho				1.75				.35		2.00				.25	.25	.10									.50	.25	.25		.50		.50	6.70
Neosho	do				.85			.05			1.13				.53	.40	.11									.12	.40	.43				.38	4.40
Oakfield	Meramec							1.67	.19		1.20	.14			.14	.10			.54				.19				1.18	.67		.09	2.87	.02	9.00
Olden	White										.75				.80	.03											.60	.34			.45		2.97
Sikeston	Mississippi	T.		.26				2.80	.25		T.	.15	T.	T.		.06							T.				1.51	.74			T.		5.77
Springfield	White				T.			5.83	.72		1.77	T.	.91	.09	.02	.03										T.	.02	.01	T.	.04	.04	.03	9.51
Steelville	Meramec										.18	1.33	.04	.98													.61						3.14
Willow Springs	White								2.91		.92			.58	T.	T.											.14	.30					4.85
Kentucky.																																	
Blandville	Mississippi	.02					T.	.75	.09		T.	.80				T.							1.58			1.47	1.38			1.07	.10	7.26
Lynnville	do	.30	.01					.68				.40				.23							.40			.72	2.20					4.94
Tennessee.																																	
Arlington	Mississippi	T.	T.						.28	.42		T.				T.								.90				.10					1.70
Bolivar	do	.22	1.02						2.32	.07				.24	.07									.28				.12					4.34
Brownsville	do	T.	T.					T.	1.97	T.		T.	T.		.25									.20				.35					2.77
Covington	do	.93							.75			.05												.20				.27					2.18
Dyersburg	do			.10					4.05	.65		T.			T.		T.							.97				.83					6.60
Jackson	do							.68	1.39					.27									.12										2.46
Kenton	do	.14						3.38				1.35				.98							.01				.88	.24					6.98
Memphis	do						T.		.18			.01				.48							.03				T.				T.	.39	1.09
Milan	do		.15						.37	.81	1.11		.37	.18									T.	.13				.53	.06			T.	3.71
Trenton	do	.96						1.04	.36			.40				T.							T.				.70	.08				T.	3.54
Union City	do	.07		.01				1.60	.55			.80				.28							.22	.10		1.22	.89						5.74
Arkansas.																																	
Alicia	White							1.95	T.		2.60	.30											.05				.25			.60	.20			5.95
Amity	Ouachita		.04			T.				.34						.92	.45							.11							T.	T.		1.86
Arkadelphia (near)	do															.33	.75	T.				.08		.11							.04	.20	1.51
Arkansas City	Mississippi		1.10						.60									T.						.16										1.86
Batesville (1)	White	.40						.03	.85														.40											1.68
Batesville (2)	do	.32	.22						.26	.84														.52				.01			.48	.02	2.67
Bee Branch	Arkansas								.10						.20	.35						.20												0.85
Benton	Ouachita																																
Bentonville	Arkansas								.14		.21	T.			.13	1.21										.30	.05	.18	T.				2.22
Bergman	White				.39	T.		.22	.86						.75	.32											.09					.12	2.75
Black Rock	do								2.32	.25		1.47												.15			T.	.57			.06	.22	5.04
Brinkley	do									.91		.21			.14									T.							T.		1.26
Calico Rock	do		.12						.48	.20																	T.	T.	.20		.68	.48	2.16
Camden	Ouachita																.96							.23							.09		1.28
Centerpoint	Red	T.	T.														1.62							.75									2.37
Clarendon	White	.06								.22		.73			.10						.66			.04							T.		1.81
Conway	Arkansas	T.				.13		T.	T.	.33						.31	.04						T.	.25			.07			.27	.53	1.93
Corning	White	.12	.07					.24	2.15		.35	.79															1.85	.04			T.	.49	6.10
Dardanelle	Arkansas					T.					.14					1.00																	1.14
Dodd City	White							.45								.20	.37										.15					.85	2.02
Dutton	do	1.91											T.			.93							T.				T.			.06			2.90
Earl	St. Francis																																
Eldorado	Ouachita		.12								T.					T.		.09		1.53			.01	.27	.02							.05	2.09
England	Arkansas	.04			T.				T.					T.	T.		T.					T.	.09								T.	1.25	1.89
Eureka Springs	White				.31										.08	1.00										T.	.05	T.					1.44
Fayetteville	do														.04	.67											.12		.02			.27	1.12
Fort Smith	Arkansas	.34										T.			.38	1.99							.03			T.	T.	T.					2.74
Fulton	Red		.86														.62	.40															1.88
Hardy	White	.01							4.25		.85	.17				.20											.70				.66	.10	6.94
Helena (1)	Mississippi		T.							.21		.06				.02								.36										0.65
Helena (2)	do		.02							.24		.10				T.								.42										0.78
Hot Springs	Ouachita			.03						.02				1.20	.24																.10	2.00	3.59
Huttig	do	.76								.04							2.41					.04										.13	3.38
Jonesboro	White							2.10															.30				.20				.05	.05	2.70
Junction	Ouachita	.60																.25	.33				.36									1.27	2.81
Lacrosse	White																																
Lake Farm	Arkansas								.35							1.70							.44									.32	2.81
Lewisville	Red	.75					.09									.40	.24	.08		.05												.28	1.89

TABLE 2.—*Daily precipitation for July, 1909. District No. 7*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Arkansas—Cont'd.																																	
Little Rock	Arkansas	.21							.07					T.	.16	.06	.29					.06	T.							T.	.38	1.23
Lutherville	do	.20					T.					T.				1.35							.15								.07	1.77
McNeil	Ouachita	.26															.21	.69	.71												1.60	3.47
Malvern	Ouachita	.45	.55													.70	.10	1.40													.47	3.67
Mammoth Spring	White								2.41		.04	1.05		.05			.05										.75			2.21	.02	6.58
Marked Tree	St Francis								1.23	1.44																						2.67
Mena	Ouachita	T.														1.35	.58		.08				T.									2.01
Mossville	White										38					.70															.15	1.23
Mount Nebo	Arkansas									.80														.35				T.			1.10	2.25
Newport (1)	White		T.							.86														.30						T.	1.10	2.26
Newport (2)	do																						42									3.53
Ozark	Arkansas				.93		T.								2.18								.04	.09								1.69
Pine Bluff	do		.16													.08	.52	.80								1.45			.18	.05	6.17
Pocahontas	White					.02		3.90		.17	.40																				T.	2.16
Pond	Arkansas								.21		.33	.20			.43	.64							T.	.22		.28		.07				2.52
Portland	Ouachita	.95	.05							.04	.02	.30					.94	1.60	.09		.31		.03	.40								3.37
Prescott	do									T.							.80	.20	.10					.40						.38	.05	1.93
Princeton	do																															1.68
Rogers	Arkansas								.28		.04				.05	1.15										.06	.10					1.45
Russellville	do					.17										1.28																2.29
Spielerville	do															2.29																1.96
Springbank	Red	T.		T.													.41	.35	.72				.41	.07								2.19
Stuggart	Arkansas	.06							.75		T.			.02						.09				.74							.53	2.69
Texarkana	Red		.75														1.84		.10												1.40	3.25
Warren	Ouachita																	.40	.06				.23	1.16								2.80
Whitecliffs	Red		.20														1.80	.15		.60				.05								1.52
Wiggs	Ouachita		T.							.22						.73	.57					T.	T.							T.		1.04
Wynne	St. Francis	.32								.19		T.			.06	.42								T.							.05	
Mississippi.																																
Anguilla	Yazoo	.33	.07						.05	T.							T.	.67	T.	T.	T.	.17	T.	T.							T.	.40	1.69
Austin	do	1.45					T.			.23	T.	.06		T.		.78						T.	.09									2.61
Batesville	do	.23						.09		.13					.08									.30								0.83
Byhalia	do						.16		T.	.55						.70	.32							.57								2.30
Canton	Big Black									.30								.31	.05		.06									.32	.81	1.85
Clarksdale	Yazoo		.40					T.		.47											T.			.60							.22	1.69
Coffeeville	do	.01							.15			.30				T.								T.			T.			.21		0.67
Corinth	Mississippi			.49				.32	3.88		.03			.11										.46							.01	5.30
Crenshaw	Yazoo					.02				.20				.06		.55	.27			.02			.03	.03							T.	1.18
Denmark	do								.17	1.00		.61		.32	.23									1.10								3.43
Duck Hill	do	T.																						.70					T.		1.50	2.20
Edwards	Big Black	.70	.05			.05				.08								.27	.05		.25									T.	.48	2.33	4.26
Enid	Yazoo									.23				T.						.11			T.	.29									0.63
Fayette	Mississippi	.67									1.81					.12		T.				.25		.18					T.		.80	T.	3.83
Greenville	Yazoo	.11	.15							.86		1.80						.03						.05									3.00
Greenwood	do		.22							.06										T.		.06		.04	.02						1.52	1.92
Grenada	do	.56					T.			.32				.21						T.				.44							1.31	2.84
Hernando	do	.04								1.00						.15		.70			T.			.97									2.86
Hickory Flat	do	.33					T.		.10	.75		.10		.40		1.49	.07						C9	.40									3.73
Holly Springs	do	.40	.21							.78			.01			.15	T.	.04			.01			.96					.47				3.03
Kosciusko	Big Black	.04	.45					.01		.72	.02						.05					.05			.01					1.20	1.80	4.35
Lake Comorant	Yazoo	.15								1.17					.25									.22								1.79
Lula	do	T.				.09				.42															.23							0.74
Malone	do								1.45													T.										1.45
Marks	do						.05			.50				.57	.02		.05							1.25								2.24
Natchez	Mississippi	.02	T.	.27													.88	T.	.03	.06		.31	.10		.01						.07	1.75
New Albany	Yazoo	.15							T.	.65		T.		T.			.92			T.			T.	.21								1.93
Pontotoc	do	2.00					T.		.50					T.	T.	1.00	.49			T.			T.	T.	1.79						T.	5.78
Port Gibson	Mississippi										.03	.88						.18	.11			T.		1.32			T.	T.			T.	2.52
Ripley	Yazoo	.40							.20	.80		.50				.65								T.								2.55
Rosedale	do							.20		1.27														.26							.35	2.08
Senatobia	do	.08	T.				T.			.19				.32		.19							.03	.24				T.			T.	1.05
Shoccoe	Big Black									T.						T.		.29			T.									61	1.54	2.44
Suffolk	Mississippi	.03	T.			.02	.16			.31							.04				.33			.19					.03	.54	.53	2.18
Swan Lake	Yazoo	.50							.25	T.														T.							.50	1.25
Tchula	do					T.	T.			.20												.15								.30	1.35	2.00
University	do																															
Utica	Mississippi	.07	.12			T.	.63			.15	.03							.04	1.20		.28			.24							.93	.39	4.08
Vicksburg	do						T.			1.13								.34	.42		T.			T.					T.		.01	.07	1.97
Water Valley	Yazoo								.35			T.		.65									.35								.20	T.	1.55
Woodville	do	.58					.05									.27	.25	.44	.04	.65	.12	.89							T.		.20	1.06	4.55
Yazoo City	do	.51	.04							T.	T.								.40			.06										38	1.39
Louisiana.																																
Abbeville	Coast		.75		.20											.31	.28		.01		.01	.02		.20			.01				2.37	4.16
Alexandria	Red	.20	.40	1.35												.10	.10	1.20				.20	.45									4.00
Amite	Coast	.88	.60	.67		T.					.33						1.10	1.00	.30	.05		.50							.63	T.	1.50		7.56
Baton Rouge	do		T.	1.20		.40	.10	.80									.25	.90	.10	.10		T.	.10		.90			.40		T.	.50	.10	5.85
Burnside	do	.06		.55	.10	.62	.65									.15		.95			.40	.09			1.05	**	**	**	**	**	**	1.70	6.32
Burrwood	do	T.	T.	.94							.14					T.	.18		.11	.12	.03				.15	.10	.12				.93	.01	2.83
Calhoun	Ouachita	.09	.15														T.	.08					.03	.06						T.	.88	1.29
Cameron	Coast		.35	.57			T.											.26							.27	.60	T.				T.	T.	2.05
Cheneyville	Red	1.28	.05	.15					.07								.13						.36							.14			2.18
Clinton	Coast	T.	1.75	.70			.05	.16			T.	.04				.70	.82	1.00	T.	.17		.22	T.							.01	.03	.47	.21	6.33
Collinston	Ouachita	.31															1.59	1.05	.50			.10		.80								.43	4.78
Covington	Coast	1.20	.05	.04	.17		.08	T.			.06	.20			1.10	.14	.11	.01		T.		.46							T.		1.00	.04	4.66
Dodson	Red	.18															.33	.25				.29		.28								.30	1.63
Donaldsonville	Coast		T.				T.	T.								.05	.30		T.			.65	.10		.85			.65	.55	.93	.35	.15	4.58
Farmerville	Ouachita	.83													.20			.43				.25	.21									.51	2.43
Ferriday	do	.21	.05							.25						.06	.09	.38			.08	.18		.06								.10	1.46
Franklin	Coast			T.	3.00	T.	T.	.06			T.					.27	.11	1.40	.12	.02		.11	.08	.03	1.01	.06		1.10	.46	.03	.42	.01	8.29
Grand Cane	Red	.10	.22																				.50	.35	.75								1.92
Grand Coteau	Coast	.35	.12		1.15		.05										.70	.73	.40	T.	T.	.35	T.		.05				T.		T.	.90	4.80
Hammond	Coast	.13	.50				.45			T.	T.					T.	.67				.30							.80	T.		.67	1.38	4.90
Houma	do				.81		.08					.47					T.	1.00				.82		.09									3.27
Jennings	do					.04	.07	.11									.14	.08		.02		.09	.20	3.58	.02	.02	.32				.04	4.73
Lafayette	do		.04	.07	T.	T.	.05	.22									1.05	1.03		.09		.17	.05	.02	.70						.03		3.52
Lake Charles	do							.12										.50	.15	.95	.35	.12	.08		1.55			.79	.63				5.24
Lakeside	do															1.39		.16	.84			.56			.91	.03	.02				2.47	6.38
Lawrence	do	.87	.79	.18	.03		1.01	.25				.31				.09	.18	.11				1.20			.30			.04		.33			5.69
Liberty Hill	Red	.44					.10											.15				.30	.20	.05							.26	1.50
Logansport	Sabine			.02																1.71				.02	.38								2.13
Melville	Red			.18	.20		T.	T.											.42	.08	T.		.96	.53	.08	T.		T.		T.	.15		2.60
Minden	do		.01	.85	.07													.07	.30				.26	.29	.02								1.87
Monroe	Ouachita		T.															.42					.04								1.32	1.78
Morgan City	Coast								.22	.20					.30		.54		.02	.04	.36									.46	.02	.20	2.36
Newellton	Mississippi		.75			T.				T.	1.75					T.	T.	.15			T.		1.15							T.	.05	3.85

TABLE 2.—*Daily precipitation for July, 1909. District No. 7*—Continued.

Stations.	River basins.	Day of month.																														Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Louisiana—Cont'd.																																	
New Iberia	Coast	T.	.20	T.	T.	T.	.20				T.	T.				1.40	.90	.10			T.	.35		T.	.20		.40					2.00	5.75
New Orleans (1)	do	T.	1.05	.03		.15	.28				.28				.01	.07	.13	T.			1.58		T.	T.	.71		.18	.12	T.	.14	T.	.14	4.85
New Orleans (2)	do	.07	.05	.05			.25				.20					.10	.02	.85			1.54				.23		.13	.17	.03	.02			3.71
New Orleans (3)	Coast	.10	.30	.10		.18	.05				.27				.03		.11	.31			1.37				.60		.10		1.26			.40	5.18
New Orleans (4)	do	.03	.06	.01		.14	.08				.18	.01	.01		.08		.05	.75			1.51				.19		.21	.03	.02	.03		.08	3.47
New Orleans (5)	do	.14	.61			.12	.07				.20	.07			.05		.05	.83			1.57				.21		.03	.02		.31		.15	4.43
New Orleans (6)	do	.01	.99	.04		.10	.20				.28				.06		.10		.01		1.70				.69		.16	.03		.08		.26	4.73
New Orleans (7)	do		.15	.63		.10	.03				.34				.10		.29				1.60				1.86		.73	.02	.49	.04		.02	6.40
New Orleans (8)	do		.86			.28	.36				.33				.13		.07				1.72				.92		.47	.06		.05		.06	5.31
Opelousas‖	do			.12	.03	.21		.07									.07	.21	.19	.10	.08	.25	.98		T.				T.	T.	T.	T.	2.31
Plain Dealing	Ouchita		2.32	.2														1.31				1.03	.02									4.83
Rayne‖	Coast			.28	.60		.64		.30								.85	.45	T.	1.10		.10	.20	T.	1.20			T.		.55			6.27
Reserve‖	do	.26	.15				1.54									.95	.84	.10				1.15			.30				.90	.60	.30		7.09
Robeline‖	Red		1.52																				.53		T.								2.05
Ruston	Ouchita																					.60	T.									.25	0.85
Schriever‖	Coast	T.	.37	1.74		.50	.65								T.	T.	.15		T.		.95	T.								.93	.08		5.37
Shreveport	Red	T.	T.															T.	.05			.67	T.	.44							.26	1.42
Simmesport‖	Red		.18	.58															1.40	.22	.12		.46	.30	.05				T.	.06			3.37
Southern Univ. Farm	Coast	.03	.10	.02							.19		.10		T.	T.	T.	.90			1.30	.20		T.	.10		.15	.10	.12	T.	.75	1.00	5.06
St. Francisville‖	Mississippi		.09				.06											.50				.40	1.85					.28				3.18
Sugartown	Red	.20					.62									.51	.60					.82										.28	3.03
Tallulah	Mississippi									.56								.44	.04	.04												1.05	2.13

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 7, Lower Mississippi Valley.*

Date.	Colorado.						New Mexico.				Texas.				Kansas.								Oklahoma.					
	Lamar.		Leadville.		Pueblo.		Albert.		Cimarron.		Amarillo.		Paris.		Dodge City.		Ellinwood.		Iola.		Wichita.		Ardmore.		Bartlesville.		Enid.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	90	62	74	44	86	64	84	65	81	57	80	62	96	72	85	68	91	68	88	71	87	68	95	71	90	67	93	68
2...	93	60	76	43	91	60	90	63	84	51	84	65	101	74	91	68	95	66	92	68	92	71	96	72	95	69	97	69
3...	100	62	73	45	92	66	93	67	87	54	87	65	101	76	93	69	98	69	95	68	93	73	98	72	96	68	100	70
4...	102	64	70	45	92	67	95	65	84	56	90	66	101	76	93	69	97	73	93	70	93	71	99	75	97	85	100	71
5...	95	64	69	47	88	64	95	68	87	57	93	69	98	77	98	76	100	73	94	76	97	76	99	73	98	73	102	72
6...	93	61	74	42	84	62	97	67	85	57	92	64	99	76	94	70	95	71	94	76	94	76	102	74	99	73	102	73
7...	94	64	72	43	90	62	94	67	87	53	89	66	101	76	94	70	90	72	92	71	98	74	103	72	99	75	102	76
8...	96	67	77	42	88	67	97	64	90	55	91	69	102	75	93	70	90	70	90	72	95	74	106	76	102	77	104	72
9...	100	68	73	42	91	63	100	63	88	56	87	66	105	75	84	68	90	75	95	72	98	72	108	75	103	74	101	72
10...	92	67	71	41	91	66	98	63	88	53	94	67	104	75	87	70	86	69	83	70	87	70	108	77	98	74	102	73
11...	104	67	70	47	102	61	106	66	92	48	96	66	104	77	93	63	94	61	91	70	93	65	108	79	98	74	104	73
12...	94	67	72	39	87	69	92	74	88	61	84	69	104	77	85	65	87	68	84	68	85	70	107	80	102	76	104	73
13...	98	69	73	46	99	59	92	61	88	53	92	63	104	77	91	62	93	57	88	64	91	64	107	76	94	65	102	74
14...	93	65	70	41	79	62	97	62	83	47	93	64	105	78	87	63	87	64	88	64	87	63	108	77	93	64	104	68
15...	91	63	73	39	91	63	91	63	82	51	88	68	101	75	88	69	87	70	82	71	88	69	100	75	93	65	100	70
16...	98	64	76	45	90	58	96	60	86	53	93	65	93	74	89	63	91	66	88	66	86	69	98	74	92	70	95	68
17...	101	61	74	44	96	62	95	64	88	51	92	63	93	69	90	66	92	67	88	67	87	69	101	71	93	68	97	68
18...	100	70	74	42	95	61	93	64	88	53	91	64	94	72	92	69	92	68	90	67	88	68	99	71	93	65	98	69
19...	101	70	73	44	95	64	94	64	85	55	89	67	96	73	92	69	92	69	91	66	90	70	101	72	95	68	98	68
20...	104	71	67	41	95	65	94	64	84	57	90	66	96	72	93	72	93	71	91	68	90	69	101	69	93	68	102	70
21...	97	68	68	41	87	63	98	72	83	53	95	68	91	68	100	72	99	71	89	63	91	69	101	66	93	67	103	68
22...	83	64	62	45	69	56	83	64	73	57	82	67	101	71	81	64	89	63	82	66	79	66	100	72	93	67	90	70
23...	89	64	64	44	82	69	85	64	77	55	85	64	95	74	86	60	85	55	82	60	81	59	96	74	85	59	92	58
24...	98	70	64	47	89	60	89	65	81	54	84	64	98	66	88	65	80	62	83	58	80	63	100	64	88	57	96	60
25...	96	67	68	40	89	59	90	63	80	57	88	67	93	67	90	65	93	62	76	66	87	66	103	65	91	64	100	68
26...	87	61	65	48	86	59	92	66	81	50	83	65	90	73	86	66	85	69	89	71	91	70	98	75	94	67	95	72
27...	95	67	65	42	92	63	96	67	82	53	95	69	98	75	97	69	88	71	82	70	81	70	97	77	81	73	92	71
28...	95	65	70	38	92	61	99	63	89	51	96	68	101	77	100	68	99	70	90	76	92	74	104	73	94	73	97	72
29...	94	65	72	41	87	65	97	63	86	56	92	68	103	76	99	63	98	71	93	74	95	73	105	77	98	71	99	72
30...	95	62	73	41	91	58	97	69	84	56	90	66	103	77	96	68	92	68	91	73	95	71	106	75	97	74	102	72
31...	96	64	75	42	92	64	96	61	84	54	94	65	105	78	98	69	94	69	91	64	94	70	108	75	96	71	103	70
Mns	95.6	65.0	70.9	43.0	89.7	62.4	94.0	64.8	84.7	54.0	89.8	66.0	99.5	74.1	91.4	67.4	91.7	67.7	88.5	68.6	89.8	69.4	102.0	73.4	94.6	69.7	99.2	70.0

Date.	Oklahoma.												Missouri.										Tennessee.					
	Mangum.		McAlister.		Muskogee		Oklahoma.		Weatherford.		Woodward.		Caruthersville.		Ironton.		Lamar.		Olden.		Springfield.		Lynnville, Ky.		Jackson.		Memphis.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	94	70	93	69	94	67	88	68	93	70	88	67	92	73	94	63	89	70	91	66	84	68	88	68	94	73	91	74
2...	94	71	97	73	98	67	91	71	96	75	93	66	97	70	97	60	94	68	93	67	89	73	91	68	98	71	91	76
3...	100	71	97	73	98	73	94	74	100	75	97	70	98	70	96	63	95	71	93	68	90	72	91	72	99	70	94	76
4...	99	60	98	75	96	75	94	76	96	82	97	71	84	68	83	61	91	71	83	64	86	68	80	83	99	71	87	75
5...	100	64	96	74	96	74	96	74	99	76	99	77	96	64	96	62	94	73	93	65	90	70	88	61	97	62	94	70
6...	100	75	96	76	96	75	95	76	100	77	99	76	98	64	96	71	95	73	94	75	90	74	92	77	99	77	90	79
7...	101	75	98	78	96	76	95	78	100	78	98	77	98	70	91	72	94	72	93	74	87	68	89	74	98	76	91	76
8...	100	76	102	76	99	76	98	74	101	80	100	71	89	70	86	72	93	73	90	69	87	67	79	72	84	71	90	74
9...	99	76	102	78	99	76	99	76	99	81	91	70	88	72	93	64	95	75	90	68	88	72	81	70	93	71	90	74
10...	106	73	102	76	98	77	101	78	107	79	98	72	80	70	77	67	95	69	84	68	85	67	77	70	90	71	84	74
11...	105	73	102	75	98	76	101	77	104	79	100	70	92	74	91	70	93	71	89	61	90	74	85	72	91	75	92	75
12...	105	74	101	78	99	76	101	77	104	80	95	79	96	76	96	73	93	77	93	52	92	70	89	75	95	75	92	78
13...	104	71	101	75	100	73	96	68	100	71	98	53	92	75	91	70	91	63	88	57	84	68	87	75	97	78	91	77
14...	106	71	105	76	101	68	102	69	105	71	97	65	90	65	89	57	88	67	84	59	79	66	86	66	93	66	93	74
15...	99	74	99	66	94	67	89	68	98	70	94	66	89	72	90	63	96	67	89	65	84	68	86	74	94	73	87	67
16...	101	74	93	72	92	70	88	70	97	73	92	65	87	70	91	54	90	67	88	57	84	68	84	70	92	71	85	75
17...	95	69	92	69	90	69	90	72	96	72	94	63	89	65	91	57	90	66	87	54	84	67	85	63	93	62	89	70
18...	104	73	93	70	93	68	90	71	93	68	95	68	94	65	93	59	92	66	89	56	86	67	86	63	94	62	87	72
19...	.....	74	95	72	89	71	92	72	96	72	95	67	87	71	91	61	92	66	87	59	87	68	85	62	95	68	90	70
20...	101	74	93	71	94	66	92	71	97	74	97	72	84	64	88	46	88	68	82	41	80	63	82	57	91	59	88	64
21...	100	74	96	62	94	67	94	69	99	72	99	73	96	68	93	48	91	60	91	48	87	60	88	62	96	66	93	73
22...	97	72	95	72	90	67	90	72	93	72	89	70	94	72	93	65	84	65	89	70	79	64	89	66	96	72	87	75
23...	93	68	92	65	91	61	87	62	94	64	90	56	87	64	87	59	84	59	82	57	77	59	79	66	92	68	82	72
24...	99	68	93	58	89	74	89	62	95	67	92	63	88	59	88	48	85	56	84	54	80	61	81	59	89	59	81	71
25...	100	71	93	66	99	72	96	71	97	72	95	68	85	61	86	56	80	65	84	52	75	64	82	56	90	57	85	70
26...	85	65	99	73	89	77	91	73	88	68	85	70	74	64	70	61	90	69	77	63	86	66	72	65	87	61	85	70
27...	100	74	91	78	98	79	87	74	94	66	98	71	92	66	90	62	89	70	91	60	86	71	84	66	90	70	89	76
28...	102	73	100	79	104	75	96	75	99	76	101	74	96	72	94	66	94	76	94	62	89	75	88	73	98	73	92	77
29...	102	74	104	78	.....	.....	98	76	101	76	100	72	98	71	95	72	94	74	91	61	89	73	90	73	101	72	93	78
30...	103	72	105	75	106	76	98	75	102	76	100	73	94	72	95	70	97	73	90	60	92	73	91	82	100	74	91	80
31...	105	74	106	79	106	74	102	75	106	73	104	69	93	71	94	69	93	65	91	61	88	68	86	72	96	71	89	72
Mns	102.4[a]	69.3	97.7	72.6	96.2[a]	72.1[a]	94.2	72.4	98.4	73.7	95.8	69.2	90.9	68.6	90.5	62.6	90.9	68.5	88.5	61.1	85.6	68.1	85.2	68.1	94.2	69.2	89.1	73.7

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 7*—Continued.

Date.	Arkansas.										Mississippi.									
	Union City, Tenn.		Bentonville.		Corning.		Dardanelle. §§		Eldorado. §§		Fort Smith.		Little Rock.		Pine Bluff. §§		Texarkana. §§		Wynne. §§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	97	72	96	69	99	69	.....	.....	96	72	96	73	96	72	96	74	96	74	96	72
2	100	69	97	69	100	69	.....	.....	98	74	98	74	98	74	100	74	98	74	98	74
3	95	69	92	69	96	69	.....	.....	94	72	94	72	94	72	96	72	96	72	96	72
4	96	69	93	69	96	69	.....	.....	96	72	96	72	96	72	98	72	98	72	98	72
5	96	69	93	69	96	69	.....	.....	96	72	96	72	96	72	98	72	98	72	98	72
6	99	72	96	72	99	72	.....	.....	98	74	98	74	98	74	100	74	100	74	100	74
7	99	72	96	72	99	72	.....	.....	98	74	98	74	98	74	100	74	100	74	100	74
8	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
9	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
10	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
11	94	72	91	72	94	72	.....	.....	94	74	94	74	94	74	96	74	96	74	96	74
12	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
13	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
14	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
15	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
16	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
17	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
18	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
19	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
20	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
21	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
22	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
23	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
24	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
25	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
26	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
27	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
28	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
29	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
30	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
31	96	72	93	72	96	72	.....	.....	96	74	96	74	96	74	98	74	98	74	98	74
Mns	92.1	68.2	90.2	68.5	93.5	69.9	.....	.....	93.7	72.9	91.3	73.2	91.8	73.1	96.3	71.1	95.8	73.3[a]	93.6	70.4

Date.	Mississippi.																			
	Natchez. §§		Vicksburg.		Alexandria. §§		Baton Rouge. §§		Covington. §§		Lafayette. §§		Lake Charles. §§		Monroe. §§		New Orleans.		Robeline. §§	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
2	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
3	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
4	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
5	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
6	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
7	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
8	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
9	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
10	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
11	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
12	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
13	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
14	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
15	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
16	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
17	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
18	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
19	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
20	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
21	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
22	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
23	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
24	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
25	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
26	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
27	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
28	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
29	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
30	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
31	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74	96	74
Means	95.4	74.4	90.7	74.3	97.0	73.1	93.8	68.5	93.3	72.8	91.0	73.4	96.2	70.0	91.4	74.0	90.0	76.4	96.6	71.5

Date.	Louisiana.																			
	Schriever. §§		Shreveport.																	
	Max.	Min.	Max.	Min.																
1	96	74	96	74																
2	96	74	96	74																
3	96	74	96	74																
4	96	74	96	74																
5	96	74	96	74																
6	96	74	96	74																
7	96	74	96	74																
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27	96	74	96	74																
28	96	74	96	74																
29	96	74	96	74																
30	96	74	96	74																
31	96	74	96	74																
Means	95.1	72.9	94.0	74.9																

Climatological Data for July, 1909.

DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

SUMMARY.

The month was warmer than usual throughout the district, especially in Colorado and in much the greater portion of Texas. The precipitation was generally deficient and there was more than the average amount of sunshine. Thunderstorms occurred with less than the usual frequency in most portions of the district, although there was a number of severe storms in New Mexico, with washouts and some damage by lightning. The most noteworthy event of the month was a tropical disturbance which moved inland on the 21st over Brazoria County, Texas, and caused some loss of life and much damage over a broad area extending northwestward as far as Travis and Hays counties.

The rainfall for the district as a whole was deficient. There was, however, a moderate excess over scattered areas in New Mexico, and over a large area in Texas lying south and west of the Colorado River. The excess in New Mexico was due to local thundershowers which were of almost daily occurrence and yielded widely differing amounts in even nearby localities. The excess in Texas was caused by heavy rains attending the tropical storm of July 21.

The precipitation over the Rio Grande watershed was less than the normal, except over its course in Texas from southern El Paso County to Kinney County. Over the extreme upper portion, in Colorado, the amounts ranged from 0.70 inch at Blanca to 1.81 inches at San Luis. Over that portion situated within New Mexico the variation was much greater, ranging from a trace at Los Lunas to over 3 inches in several localities. While the irrigation streams were generally low, they carried sufficient water to fill ditches, but long stretches of the Rio Grande were dry below Albuquerque after the middle of the month. From the southern portion of El Paso County to Kinney County in Texas, the rainfall was greater than over any other stretch of the Rio Grande and ranged from 3 to over 5 inches, the greatest reported being 5.70 inches at Del Rio, while below Kinney County it was considerably less than two inches. In the Rio Pecos watershed there was less variation in the rainfall than in that of the Rio Grande. In general there was a gradual increase in the monthly amounts from north to south, ranging from less than 1 inch in the upper to over 5 inches in the lower Rio Pecos Valley. Throughout the watersheds of the San Antonio and Guadalupe rivers, and of the middle and lower portions of the Colorado River the rainfall was heavy. It was also heavy in the extreme lower valleys of the Brazos and Trinity rivers, and over limited areas of the Nueces. There was a general and in many localities marked deficiency over the watersheds of the upper Colorado, upper and middle Brazos and Trinity, and of the entire Neches and Sabine rivers. The least monthly amount was a trace at Dallas and at Weatherford in the upper Trinity Valley, and the greatest was 9.81 inches at Kerrville in the extreme upper Guadalupe Valley. Most of the heavy precipitation occurred during the short period from the 21st to the 23d. It caused a temporary rise in the rivers, but notwithstanding, the rivers carried much less than the average volume of water. The only exception was the Guadalupe whose mean depth of water for the month averaged slightly above the normal.

The excess of temperature was greatest over the headwaters of the Trinity River, where it averaged over 4° per day, and the least over portions of the upper Rio Grande Valley, with an average of less than 1°.

The monthly mean temperature in the various localities of the district ranged from 63.2° at Windsor, N. Mex., to 91.2° at Fort McIntosh, Tex. In both the Rio Grande and the Rio Pecos valleys the range of temperature was much greater than in the watersheds of the rivers wholly within the confines of the State of Texas, which may be ascribed to their geographical location and to the topography of the country. Thus, Garnett in the extreme upper portion of the Rio Grande Valley had a mean temperature of 64.6°, and Fort McIntosh in the lower portion of that valley, 91.2°. In the Rio Pecos Valley the mean temperature ranged from 63.2° at Windsor in the extreme northern to 85.2° at Barstow, in the southern portion. No such differences occurred in the watersheds wholly within Texas, where the lowest monthly mean was 78.8° at Plainview in the extreme upper Brazos River Valley, and the highest, 89.6° at Hondo in the Nueces Valley and at Waco in the middle Brazos Valley. The diurnal range of temperature was least on the Gulf coast and increased toward the interior. For instance, the greatest daily range at Galveston, Tex., was only 12°, while at Abilene, Tex., it was 32°, and at Magdalena, N. Mex., as much as 52°. The warmest weather of the month occurred from about the 8th to the 18th. During this period temperatures of 100° and over occurred on consecutive days in many portions of Texas and New Mexico. After the 18th the day temperatures became less trying, but the weather continued warm, and there was no perceptible change in the night temperature. In portions of the lower Rio Grande Valley the temperature exceeded 100° almost daily throughout the month. The highest reading recorded was 110° on the 11th in the Rio Pecos Valley, at Carlsbad, N. Mex., and at Barstow and Fort Stockton, Tex. On the same day the lowest temperature of the month, 39°, occurred in the upper Rio Grande Valley, at Chama, N. Mex.

REPORT OF THE TEXAS HURRICANE OF JULY 21, 1909.

This disturbance was first observed on the morning of July 18, 1909, being then apparently central over western Cuba and moving in a northwesterly direction into the Gulf of Mexico. It remained in the Gulf for over three days steadily approaching the Texas coast at the rate of about 10 miles per hour. By 7 a. m. of July 21 it was central at a distance of perhaps 30 miles south southeast of Galveston, whence it moved inland over Brazoria and Wharton counties, breaking up on the following day in southwest Texas near the middle Rio Grande.

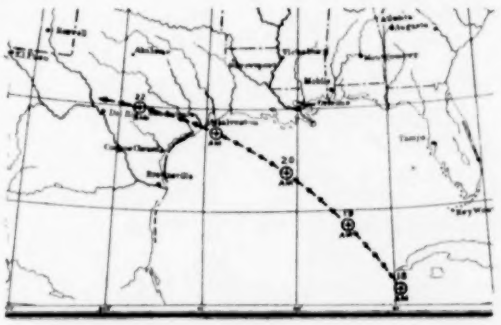

FIG. 1.—Path of Texas storm of July 18–22, 1909.

The path of the storm is shown on the accompanying fig. 1 from the day it was first announced to the day it finally dissipated. Warnings were issued daily from the Central Office of the Weather Bureau at Washington, D. C., and shipping and other interests at all Gulf and Atlantic ports were kept constantly informed of the progress of this disturbance. In consequence there were practically no marine disasters, but the damage on

land was unavoidably great. It is estimated that the total damage in Texas exceeded $2,000,000.00, and 41 persons are reported to have lost their lives in this storm. Fig. 2 shows the storm-swept area, prepared from the best data available. The destructive force of the wind was greatest near the coast and diminished as the storm moved inland. The waves also did much damage. At Galveston the Gulf rose to a height of 10 feet above the normal, and to the westward it rose still higher, submerging the entire western portion of Galveston Island and many miles of the main land. At Velasco the tide was reported 3 feet higher than during the great Galveston storm of 1900. This is probably correct as the center of this storm passed over Velasco, while that of the 1900 storm passed over Galveston, or about 40 miles farther to the northeast. Press despatches gave accounts of many narrow escapes from a watery grave.

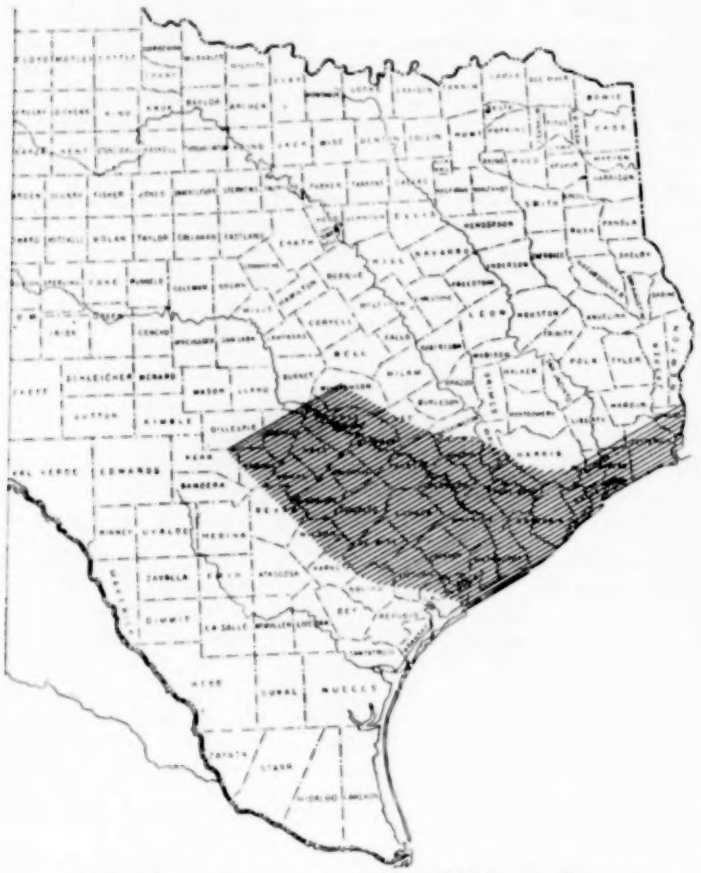

FIG. 2.—The limits of damage in the area visited by the Texas storm of July 21, 1909.

The storm was accompanied by heavy precipitation over the southern half of the State of Texas, except the lower Rio Grande Valley which received no moisture. At Hallettsville the rainfall from this storm amounted to 8.50 inches, and at Kerrville to 8.84 inches, which was the heaviest reported. Salt water was carried inland for many miles. At Bay City, which is about 20 miles from Matagorda Bay, the precipitation had a distinctly salty taste. There are no reports as to the occurrence of lightning and thunder, although a few claim to have seen faint flashes of lightning.

For several days preceding the approach of the hurricane the barometric pressure was above the normal over the eastern half of the country. From July 18 to 21 a well-defined area of high pressure advanced slowly southeastward over the Great Lakes and the Ohio Valley, while in Texas and neighboring States the weather had been for over two weeks, and was then, unusually warm. Assuming that storms follow a path in the direction of least resistance, the cause of the course pursued by this disturbance can readily be understood from the weather conditions prevailing in the Gulf and Atlantic districts.

The lowest corrected barometric reading on the Gulf of Mexico, 29.08 inches, was observed on the S. S. *Paraguay* at 10 a. m., July 20. The lowest corrected reading on land, 29.00 inches, was observed at Bay City at 2.30 p. m., July 21. The maximum time at which the center of the storm appears to have passed a given point has been estimated at one hour. This would make the diameter of the center 10 miles, but it is probable that the diameter increased rapidly over land and was much smaller over the Gulf.

At the time of the storm the writer was on duty at Galveston, and from that place submitted the following immediate report to the Chief of the Weather Bureau:

The tropical storm of July 21, 1909, from a commercial as well as residential point of view has proven of the utmost importance to the city of Galveston. It was a very satisfactory test of the protection of the sea wall which was built after the destructive hurricane of 1900. Not a single life was lost within the protected area and the damage to property was only nominal, consisting principally of broken trees, fences and windows, and other minor losses. Outside of the sea wall everything exposed to the wind and waves was either destroyed or suffered severely. Among the property completely lost were two bathing pavilions, two fishing piers leading out from the sea wall, several structures near the beach beyond the western terminus of the sea wall, and two fishing piers on the jetties several miles east of Galveston. One other bathing pavilion was badly damaged.

FIG. 3.—Sea wall and pavilion at Galveston, Tex. The riprap at the bottom and the curved face of the wall break the force of the waves. The pavilion was destroyed by the storm of July 21, 1909.

The railroad bridge over the bay suffered to some extent, and traffic as well as telegraphic and telephonic communication was interrupted. Washouts occurred in several places. The total damage is estimated at $100,000., and may possibly be greater.

The two fishing piers on the jetties were occupied on the day of the storm. The occupants of one of these piers were taken off before it was demolished; those of the other pier, consisting of 11 persons, went down with the structure, not, however, until after several heroic efforts had been made to save them. Seven of the 11 occupants were picked up alive on the following day by searching parties at a distance of 25 miles from the pier; three were picked up dead, and one is still unaccounted for and probably lost.

There was no damage to shipping, except that a few small boats were lost. The sloop *Ellen*, a fishing boat, was towed into port after the storm, with masts and rigging gone. Her captain, who was in a small boat at the time, was lost, struck by the boom during a gust of wind, as he was trying to board his sloop. He was probably instantly killed. The situation may be summed up as follows: Four persons dead and one person unaccounted for, property loss about $100,000, nearly all of which occurred outside of the sea wall.

The first announcement of the approach of this storm was received at this office at 12:57 p. m., July 18, 1909, the advisory message coming from Washington through New Orleans. This was followed by further advisory messages received 1:05 p. m., July19, and 9:45 a. m., July 20, the last message being to the effect that the disturbance was apparently over the central Gulf moving northward. Shipping interests and the public were kept thoroughly posted by telephone, bulletins, and the press, and I do not believe that on July 20 there was a single news-reading person in the city who was not aware of this storm. The weather was fine on July 19, and the sunset of that day was beautiful, showing in succession nearly all the colors of the rainbow over

the greater portion of the sky. The 20th, which was the day before the storm, opened clear. Toward noon a cirrus haze began to overspread the sky, which became slowly denser during the afternoon and gradually merged into alto-stratus clouds. By nightfall the sky was overcast, but later cleared, with clouds remaining in the eastern horizon. The wind was light until 7:00 p. m. when it shifted to the northeast, increasing in force and coming in mild gusts. At 8:40 p. m., the wind became north, but continued gusty. The highest velocity to midnight was 26 miles. There was a heavy sea swell and the Gulf was unusually high.

FIG. 4.—The sea wall at Galveston, Tex.; length, 19,594 feet; height, 17 feet above mean low tide; cost, $1,295,275.

The wind continued north throughout the night and until 8:40 a. m., July 21, when it became northeast, gaining steadily in force with frequent violent gusts. Immediately after the morning observation, at 7:15 a. m., storm warnings were displayed, but the halyards parted at about 9:00 a. m. from the immense strain to which they were subjected. At 10:25 a. m. the wind shifted to the east, and at 10:50 a. m. attained a velocity of 68 miles per hour for five minutes. During this high velocity a gust of one minutes' duration occurred at the rate of 78 miles per hour. At 11:40 a. m. the wind became southeast and continued in that quadrant until after the storm. At 11:45 a. m., one of the wires connecting with the anemometer snapped at the binding post and for 12½ minutes there was a blank in the wind record. The anemometer, however, showed that during this period the wind traveled 14 miles. At about 12:35 p. m., there was a marked decrease in the violence of the wind and from this time on it lessened steadily but slowly. At 2:00 p. m. the wind record was again broken, but this time it was found to be due to the mechanism of the anemometer dial, and the extra anemometer was substituted, which cured the defective record.

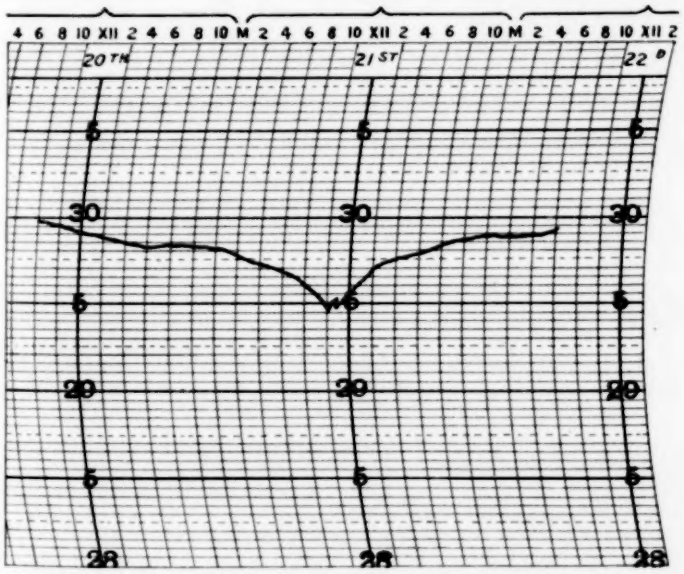

FIG. 5.—Barogram during the storm of July 21, 1909.

During the day the sky was covered with low stratus clouds and scud which moved rapidly with the surface wind. Rain occurred from 5:11 a. m. to 5:28 a. m. and from 5:45 a. m. to 12:40 p. m., but most of the time it was a very light driving drizzle. The total precipitation for the day was 0.50 inch. It is my opinion that much of this drizzle was spray driven in from the Gulf. It was subsequently found that nearly all trees and shrubbery, except palms, withered on the windward side, the leaves appearing scorched as by a fire and dropping off. It is believed that this phenomenon was caused by the action of salt water carried inland by the wind.

The action of the barometer is best shown by the barograph tracing, fig. 5.

A correction of 0.05 inch should be applied to this tracing. Half hourly barometer readings were, however, taken by Mr. H. H. Martin, with the following result:

Time.	Barometer reduced to sea level.	Time.	Barometer reduced to sea level.
7:00 a. m.	29.76	11:00 a. m.	29.58
7:35 a. m.	29.74	11:35 a. m.	29.62
8:00 a. m.	29.71	12:00 noon	29.64
8:35 a. m.	29.69	12:30 p. m.	29.68
9:01 a. m.	29.65	2:00 p. m.	29.75
9:30 a. m.	29.64	2:15 p. m.	29.80
10:05 a. m.	29.56	2:45 p.m	29.83
10:30 a. m.	29.57	3:30 p. m.	29.83
		4:05 p. m.	29.86

The lowest pressure was 29.557 inches at 10:05 a. m. From the direction of the wind, which was successively N., NE., E. and SE., it appears that the center of the storm passed south of Galveston. Press dispatches later had it that there were two storms at Velasco, Brazoria County, and at Bay City, Matagorda County, the first coming from the north and the second from the south. This indicates that the storm center moved inland over Velasco and Bay City, and that it passed about 25 miles south of Galveston.

The Gulf, it is estimated, rose to a height of nearly 10 feet above the normal and the entire western portion of Galveston Island was under water, drowning a large number of cattle and hogs. Volumes of water dashed over the sea wall and flooded successively the lower portions of the city. It was after 2:00 p. m. before this water finally disappeared through the drainage pipes.

The local office of the Weather Bureau was besieged by anxious inquirers during the entire day. From 4:00 a. m. until 7:00 a. m. Messrs. Scott and Martin answered all telephone calls, and after 7:00 a. m. Mr. W. P. Stewart was kept constantly busy at the telephone, advising people in the threatened sections to move into town to safer places, and that no assurance could be given until after the barometer should begin to rise. Thousands of people came down town and sought refuge in the county court house, public library, hotels and office bulidings, the police and fire departments assisting in conveying them to safety. Our own office building was crowded from top to bottom. During the height of the storm the largest office window was blown in, the thermograph upset, and the station maximum thermometer broken.

Four special reports of the progress of the storm were sent to your office and one to New Orleans, but it is feared that some of them failed to reach their destination in time, as communication was cut off. Two messages, both sent from your office on July 21, did not reach this office until the following day.

The entire station force behaved admirably under trying circumstances.

The following are extracts from reports received, which throw much additional light upon the extent and severity of this tropical storm:

REPORT OF MR. W. F. BERG, MASTER OF THE S. S. PARAGUAY.

The following is a brief description of a hurricane which we encountered in the Gulf of Mexico during our last voyage from Sabine Pass, Tex., to Marcus Hook, Pa.

We left Sabine Pass on July 18, at 6 p. m. We had noticed storm signals set indicating that a storm was expected from the southeast. The weather was then clear, with a fresh southeast breeze and moderate sea. These conditions continued until shortly after noon of the following day, when the wind came from the northward. By 8 p. m., the wind had increased in force to a strong gale, with very high sea and cloudless skies. Our latitude at noon was 28° 27′ north, longitude 91° 16′ West. At midnight the skies had become overcast, the wind and sea remaining the same as at 8 p. m.

July 20, 8 a. m., the wind was still from the northward, blowing a strong gale, with frequent heavy squalls, heavy rain and a heavy cross sea. At 10 a. m., the wind died away altogether. The sky continued overcast, but much lighter than before, and the sea was very much confused although not very dangerous. At 11 a. m., the barometer read 29.10 inches (lowest) and the wind sprang up from the southward blowing full hurricane force, accompanied by very heavy rain, lasting until nearly 4 p. m. without a perceptible break. About 4 p. m.,the weather became squally, the squalls gradually becoming less violent, with longer intervals until at midnight we were able to proceed on our course, the wind at that time being a strong southeast breeze with a clear sky and a rough sea.

The following barometer readings were taken during the disturbance:

	Inches.		Inches.
July 19, 4:00 p. m.....	30.08	July 20, 2:30 p. m.....	29.55
July 19, 8:00 p. m.....	29.98	July 20, 3:00 p. m.....	29.61
July 19, Midnight.....	29.92	July 20, 3:30 p. m.....	29.66
July 20, 4:00 a. m.....	29.81	July 20, 4:00 p. m.....	29.70
July 20, 8:00 a. m.....	29.43	July 20, 4:30 p. m.....	29.70
July 20, 10:00 a. m.....	29.10	July 20, 5:00 p. m.....	29.65
July 20, 12 Noon.....	29.13	July 20, 5:30 p. m.....	29.66
July 20, 12:30 p. m.....	29.30	July 20, 5:50 p. m.....	29.78
July 20, 1:00 p. m.....	29.36	July 20, 6:50 p. m.....	29.83
July 20, 1:30 p. m.....	29.44	July 20, 7:10 p. m.....	29.88
July 20, 2:00 p. m.....	29.50	July 20, 8:50 p. m.....	29.90

The foregoing readings were taken from an aneroid barometer, which was compared with a standard barometer at Philadelphia, Pa., and found to read 0.02 inch too high.

REPORT OF THE STORM AT ANGLETON AND VELASCO, BY MR. W. P. STEWART.

On the way to Velasco the effects of this storm were first seen at Danbury, Tex., a village about 20 miles north of Velasco. At this place two buildings had been blown down.

At Angleton, a town of 800 inhabitants, about 15 miles north-northwest of Velasco, about one-half the houses had been destroyed, many of them substantial brick structures. Of the buildings left standing nearly all had been more or less damaged. The debris was strewn toward the north-northwest. I was informed that high northerly wind prevailed during the forenoon of July 21. It shifted to the southeast and south about 12:30 p. m. and immediately attained hurricane force. There was some clearing of the sky as the center passed, but only a slight lull in the wind. Rebuilding is being pushed rapidly at this place.

On the way from Angleton to Velasco the wrecks of many farm buildings were seen. Apparently the newer houses were left standing. In the timber along the Brazos River Valley many trees were uprooted or broken off. Those at the bottom were from the northeast, those on top from the southeast or south. Corn stalks and other light debris invariably lay from the south, showing that the last blow was from that direction.

At Velasco, which had been a town of 600 people, apparently one-half of the town was destroyed. Here the wind was nearly as strong from the north as from the south. The storm-warning tower of the Weather Bureau was wrecked before the wind shifted to the south. There was a calm of about 45 minutes at the center, and for a few minutes the sun came out. The wind shifted to south about 12:30 p. m. Of the buildings left standing a large number leans toward the north. It is said that at Velasco the tide was 3 feet higher than during the great storm in 1900. It is evident that the earlier estimate that the storm center passed about 25 miles south of Galveston was approximately correct.

REPORT OF MR. R. B. LOGGINS, COLUMBIA, TEX.

On July 21 we had two storms at this place with a lull between them lasting from one-half to three-quarters of an hour—long enough for us to come from our retreat to the house, serve dinner and eat. These storms came from directly opposite directions, the former from a little west of north, and the latter, which was the more severe, from a little east of south. Both were severe. The former prostrated shade trees and fences, and unroofed houses, and the latter tore down whatever was left. There was no loss of life in this community. One negro woman on my place was hurt, but not seriously. All tenant and outhouses were destroyed, but the dwelling was left standing, though wet and somewhat knocked out.

REPORT OF MRS. MARY A. STEVENS, BRAZORIA, TEX.

The storm in the morning was northwest by north. After 10 a. m. it increased suddenly in violence. About noon there was a lull for almost one hour; then the return wind struck fast and fierce—seemingly worse than in 1900—decidedly worse than in the morning. It lasted until 4 p. m. During the afternoon the wind blew mainly from the south and southwest. At 10:30 a. m., the rain gage blew over and the amount of rainfall has been estimated.

REPORT OF MR. E. C. QUEREAU, BAY CITY, TEX.

I forward you a few data on the recent West Indian hurricane as observed by me at Bay City, Tex. I have a compensated aneroid barometer of English make and noted that it registered 30.2 inches at 8 a. m. My barometer has not been compared with a mercurial for a long time, but by watching the isobars on the weather maps, I judge that it reads about 0.2 too high. However, I will give you actual readings.

At about 12 m. of the 21st, it had fallen to 29.5 inches, with a strong wind blowing from the north. At 1 p. m. it read 29.3 inches, and the wind shifted to north of west. At 2:30 p. m. it read 29.2 inches, the lowest point reached, with wind from the west, increasing to a terrific gale, which was estimated at from 70 to 75 miles per hour. The barometer remained at 29.2 inches until about 3:30 p. m., when it began to rise slowly. The wind shifted to southwest and later to south, but did not slacken perceptibly for half an hour after the barometer began to rise. By 5:30 p. m. the wind had died out and the barometer returned to 30.2 inches. The rainfall was excessive during the storm. A tub I put out was blown away, and there were very few things that were not blown away. A neighbor had a pail in a tree which was filled (about 12 inches). The country here is very flat, but water filled the roads and fields until the ground was out of sight under several inches of water. Evidently the center of the storm passed east of Bay City, but probably not far. Destruction to buildings was very great in this city and east of the Colorado River, but there was not much damage west of that river.

A friend from Rock Island, near Eagle Lake, reported that the wind there started in from the north when there was a lull for nearly an hour. It then shifted to the south and was very destructive. Evidently the center of the storm passed over that place.

REPORT OF MR. C. R. SWISSHELM, BAY CITY, TEX.

The morning of July 21 dawned cloudy, with light rain and very little wind. About 9:30 or 10:00 a. m., the wind became stronger and at noon commenced to tear down awnings and signboards. About 1:30 p. m., our hotel, which was a large frame building, began to rock and we moved to a small brick building across the street and remained there for probably one half hour, when the wall of the opera house next door gave way and fell through the roof of our shelter, but the wooden ceiling held the brick long enough to allow us to escape. We then moved to another brick building immediately adjoining, but left it in about five minutes, because its roof blew off. We then retreated to the building which contained the post-office. The walls of this building held, but all its windows were blown in. The storm ceased about 6:30 p. m. The damage was all done between noon and 6 p. m.

I was slightly confused in the points of the compass, but to the best of my knowledge the wind began from the northwest and gradually shifted to the west, south, and southeast. There was no lull during the storm. The velocity of the wind was estimated by several people at about 110 miles per hour, and that is also my estimate. The wind was strong enough to pick up pieces of wood 6 inches in diameter and 3 feet long and hurl them through the air. It rained incessantly, but there was no lightning or thunder, and the water that fell had a distinct taste of salt and stung the eyes. The wind came in gusts and in several instances knocked holes in brick walls, but left the walls standing. Several buildings had the front blown in and the rear blown out.

The warehouse and cotton gin district was completely wiped out. Many residences were blown off their foundation, but were otherwise not seriously damaged. The frame buildings seemed to suffer less than the brick. There was scarcely a frame house left standing between Bay City and Wharton. The town of Van Vleck had only three houses left standing and they were badly damaged.

REPORT OF MR. F. P. LUND, MIDFIELDS, TEX.

The center of the storm passed over El Campo, Tex., where there was a lull in the wind from about 4:20 p. m. to 4:40 p. m., when the wind blew from a nearly opposite direction.

At Midfields, the wind commenced to blow from the north and gradually shifted to the southwest.

My aneroid barometer read 30.24 inches in the morning and by 1 p. m. had fallen to 29.53. At two o'clock it read 29.33 and remained stationary until 3 p. m., when it rose to 29.45. At four o'clock, it again fell to 29.33, but by 5 p. m. had risen to 29.45 and continued to rise until it read 30.24 inches.

NOTE:—The aneroid barometer used by Mr. Lund in his observations seems to read from 0.2 to 0.3 inch too high.

REPORT OF DR. J. E. LAY, HALLETTSVILLE, TEX.

The storm of July 21 was the worst ever known in this community. I have been a resident here since 1850 and nothing like it has been known in my experience. I have measured the rainfall since 1872 and have never known more than 6 inches to fall in one storm, but on this occasion there fell 8.5 inches before it ceased. The wind must have blown at least 55 or 60 miles per hour. The velocity is only estimated as I have no anemometer, but taking into consideration the damage dope to crops, outhouses, windmills and other things in general, it must have reached or exceeded that velocity.

From the despatches from Galveston, the storm center must have struck the coast between that city and Corpus Christi and if it did, it must have been deflected inland and to the northward. I judge so from the course the wind took at this place which evidently shows that the storm center passed east of us between this place and Houston.

On the 20th the barometer began to fall, the temperature being about 100°. Press despatches showed that a storm was in the east Gulf and I feared it would come this way for the whole of Texas was a seething furnace with the barometer comparatively low. I stated these facts to my friends and my prediction was correct.

About 3 p. m. of the 21st, the wind freshened from a northerly direction, with an already cloudy sky, and continued to gain in velocity. The barometer continued to fall and by 5 p. m., the storm was upon us increasing in force until about 8:30 p. m., when the barometer ceased to fall, remained

stationary for a few minutes, and then began to rise with great rapidity. After this the wind slowly abated and by 9:30 p. m. had shifted, by way of west and south, to the southeast where it died away. From the course the wind took, I suppose the center passed east and toward the interior, northward of us.

During the entire storm, the rain fell in torrents putting the water courses up very high. The damage to crops is very great, but can not be accurately estimated at this time.

With the tempest howling, the rain beating through every place thought to be secure, the trees crashing and now and then torn up by the roots that had held them secure against every storm for a hundred years or more, and total darkness prevailing, this was the most awful night I have ever experienced. The most consoling thought is that there was no loss of life.

REPORT OF JULIUS LAUX, FLATONIA, TEX.

During the storm of July 21, both my thermometer shelter and raingage were blown over, but I am glad to say were not damaged, although I lost my rainfall record. The storm was very severe. Considerable damage was done to shade trees and store buildings, but very little to dwellings. A number of outhouses and barns was blown down. Some private rain gages which heretofore agreed closely with mine showed 5.75 inches of precipitation.

TABLE 1.—*Climatological data for July, 1909. District No. 8, Texas and Rio Grande Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Colorado.																			
Amethyst (near)	Mineral	8,730	1																Don C. La Font.
Blanca	Costilla	8,403	...	65.7	.....	90	8	40	28	45	0.70	.....	0.26	0.0	5	12	19	0	sw.	L. C. Audrain.
Cumbres	Conejos	10,015	3																Venita A. Good.
Garnett	Costilla	7,576	16	64.6	+ 3.3	91	13	40	11	49	0.95	− 0.25	0.50	0.0	5	8	22	1	sw.	Chas. Speiser.
Hermit	Hinsdale	9,843	...																C. C. Mason.
La Veta Pass	Costilla	9,000	...								1.57	.....	0.80	0.0	5	16	8	7	w.	Norvin R. Lively.
Manassa	Conejos	7,700	3																	J. B. Chapman.
Platoro	....do	9,675	2																	Walter R. Hook.
Saguache	Saguache	7,740	17																	Eugene Williams.
San Luis	Costilla	7,794	18	64.4[d]	+ 1.7	86[i]	11†	41	10†	43[i]	1.81	− 0.54	0.55	0.0	13	15	16	0	sw.	P. B. Albright.
Wagon Wheel Gap	Mineral	8,434	10																	Ellwood Bergey.
New Mexico.																				
Agricultural College	Dona Ana	3,863	43	81.2	+ 0.4	106	12	62	6	39	0.71	− 1.13	0.48	0.0	6	7	23	1	sw.	N. M. Agric. College.
Alamogordo (near)	Otero	4,338	9	80.2	.....	108	10	61	1	36	0.62	.....	0.48	0.0	2	9	19	3	sw.	Jas. C. Dunn.
Alamogordo	....do	4,320	...								1.22	.....	0.64	0.0	4	...	...	...	...	Agent E. P. & S. W. R. R.
Albuquerque	Bernalillo	5,200	34	79.6[e]	+ 2.4	100[e]	12	60[e]	15	36[e]	0.83	− 0.31	0.33	0.0	6	15	11	0	s.	University of N. M.
Amizett	Taos	9,018	...								1.78	.....	0.80	0.0	13	8	20	3	w.	Geo. W. Oates.
Ancho	Lincoln	6,112	...								3.00	.....	1.00	0.0	5	...	...	...	...	Agent E. P. &S. W. R. R.
Aspen Grove Ranch	Rio Arriba	9,000	...										0.65	0.0	4	...	...	...	...	Junius D. Maupin.
Bateman Ranch	....do	8,900	...											0.0	14	7	12	12	w.	John W. Bateman.
Bluewater	Valencia	6,732	8	71.2	.....	94	8†	45	29	48	1.63	.....	0.47	0.0	7	13	15	3	w.	Bluewater Develop'm't Co
Bluewater Reservoir	....do	9,000	...								1.75	.....	1.00	0.0	3	24	7	0	w.	Do.
Boaz	Chaves	4,154	...	78.0	.....	104	11	59	18†	39	1.57	.....	0.82	0.0	5	15	13	3	se.	D. C. Savage.
Capitan	Lincoln	6,348	...								2.27	.....	0.50	0.0	13	14	15	2	.....	Agent E. P. & S. W. R. R.
Carlsbad	Eddy	3,120	15	82.0	+ 2.0	110	11	64	18†	40	3.66	+ 0.35	1.09	0.0	9	7	17	7	se.	U. S. Reclamation Serv.
Carrizoso (1)	Lincoln	5,429	2	75.5	.....	101	10	57	29	39	2.58	.....	1.01	0.0	10	2	26	3	.....	A. H. Harvey.
Carrizoso (2)	....do	5,438	...								3.68	.....	1.09	0.0	10	18	8	5	sw.	Agent E. P. & S. W. R. R.
Chama	Rio Arriba	7,851	8	66.0	.....	90	12	39	11	50	2.33	+ 0.13	0.70	0.0	8	20	10	1	sw.	Frank C. Johnson.
Cloudcroft (1)	Otero	8,650	7																	M. P. Conkly.
Cloudcroft (2)	....do	8,650	...								4.69	.....	1.20	0.0	13	14	4	13	.....	Agent E. P. & S. W. R. R.
Corona	Lincoln	6,666	...								2.93	.....	1.00	0.0	5	0	23	8	s.	Do.
Coyote	....do	5,800	...								1.10	.....	0.55	0.0	6	...	...	...	e.	Do.
Cundiyo	Santa Fe	6,889	...								0.80	.....	0.26	0.0	7	8	20	3	w.	Teofilo Vijil.
Demonstration Farm	San Miguel	6,800	1								2.72	.....	1.04	0.0	7	...	...	...	.....	Erb and Westerman.
Duran (1)	Torrance	6,272	1	73.4	.....	100	10	46	25	36	0.64	.....	0.15	0.0	8	7	19	20	w.	W. H. Birkhead.
Duran (2)	....do	6,272	...																	Agent E. P. & S. W. R. R.
Edison Mine	Taos	10,600	...																	Frank L. Paxton.
Elk (near)	Chaves	.....	10	68.8	− 1.6	93	11	53	24†	37	5.84	− 0.13	2.87	0.0	9	6	22	3	e.	Boyd Williams.
Escondido	Otero	4,014	...								1.42	.....	0.44	0.0	6	5	15	11	w.	Agent E. P. & S. W. R. R.
Española	Rio Arriba	5,590	13	74.9	+ 3.0	99	12	48	10	48	0.48	− 1.03	0.37	0.0	3	15	11	5	sw.	Mrs. E. F. McBride.
Estancia	Torrance	6,140	4	71.3[a]	.....	102[a]	10	49[a]	19†	50[a]	0.99	.....	0.27	0.0	9	16	14	1	e.	Agent N. M. Cent. R. R.
Fort Stanton	Lincoln	6,231	30	70.3	+ 1.2	94	10†	48	1	40	3.28	+ 0.31	1.40	0.0	11	17	10	4	s.	U. S. Sanitarium.
Fort Sumner	Guadalupe	3,960	7	79.2	.....	105	11	56	27	48	1.06	.....	0.48	0.0	7	28	2	1	s.	F. A. Manzonares.
Gallinas	Lincoln	6,635	...								1.76	.....	0.58	0.0	10	12	15	4	.....	Agent E. P. & S. W. R. R.
Gallinas Planting Stat'n	San Miguel	7,500	3	66.1	.....	89	11	43	28	41	5.11	.....	1.40	0.0	13	2	24	5	nw.	U. S. Forest Service.
Harvey's Upper Ranch	....do	9,400	...								5.41	.....	1.47	0.0	14	7	16	8	nw.	Simon B. Warner.
Hillsboro	Sierra	5,224	10	77.8[a]	+ 1.4	102[a]	13	60	14†	35[a]	1.26	− 0.98	0.30	0.0	7	24	7	0	w.	J. M. Webster.
Hodges	Taos	8,484	...								2.63	.....	0.87	0.0	5	16	4	11	nw.	Ralph W. Johnson.
Hondo Reservoir	Chaves	3,904	1	79.6	.....	107	11	62	2†	39	2.62	.....	1.07	0.0	6	19	9	3	sw.	U. S. Reclamation Serv.
Hope	Eddy	.....	3																	N. L. Johnson.
Hopewell	Rio Arriba	9,500	...								0.83	.....	0.29	0.0	10	3	19	9	sw.	John T. Blanton.
Laguna	Valencia	5,840	5	75.6	.....	101	12	54	5†	43	1.45	.....	0.50	0.0	4	10	6	15	w.	Gus Weiss.
Lagunita	Guadalupe	4,500	5	77.5[c]	.....	96[c]	6	56[c]	30	31[c]	0.65	.....	0.38	0.0	5	23	5	3	sw.	P. A. Turnbull.
La Huerta	Eddy	3,111	1								3.67	.....	1.62	0.0	8	16	12	3	se.	D. Barclay Sutherland.
Lake Valley	Sierra	5,415	5								1.42	.....	0.28	0.0	12	0	30	1	sw.	Wm. P. Keil.
Las Vegas	San Miguel	6,384	23	72.0	+ 2.9	99	11†	44	16	48	1.53	− 2.54	0.42	0.0	11	20	10	1	s.	Dr. Wm. C. Bailey.
Los Lunas (near)	Valencia	4,900	18	78.4	+ 1.4	103	11	57	8†	44	T.	− 1.03	T.	0.0	0	7	23	1	.....	Richard Pohl.
Los Tanos	Guadalupe	4,919	...								1.95	.....	0.60	0.0	7	...	...	...	s.	Agent E. P. & S. W. R. R.
Magdalena	Socorro	6,557	4	72.6	.....	102	14	50	14†	52	3.58	.....	0.90	0.0	8	1	30	0	w.	Wm. Pender.
Mineral Hill	San Miguel	7,050	5								3.57	.....	1.13	0.0	7	6	19	6	sw.	W. M. Nelson.
Monument	Eddy	3,500	4																	James M. Cook.
Mountainair	Torrance	6,547	7	72.4	.....	98	12	51	24	43	2.31	.....	0.52	0.0	9	14	17	0	sw.	John W. Corbett.
Newman	Otero	3,989	...								0.74	.....	0.58	0.0	3	24	7	0	.....	Agent E. P. & S. W. R. R.
Noria	Dona Ana	4,414	...								1.61	.....	0.80	0.0	6	6	24	1	sw.	Do.
Orogrande	Otero	4,171	...								0.17	.....	0.06	0.0	5	5	19	7	w.	Do.
Oscuro (near)	Lincoln	5,016	...								2.11	.....	0.80	0.0	11	...	...	...	.....	Eugene F. Jones.
Oscuro (2)	....do	5,016	...								1.94	.....	0.99	0.0	14	6	18	7	se.	Agent E. P. & S. W. R. R.
Otis	Eddy	3,100	...								3.21	.....	1.14	0.0	6	26	2	3	se.	A. M. Hove.
Otto	Santa Fe	6,200	...								1.27	.....	0.39	0.0	9	...	...	...	.....	Otto Goetz.
Pastura	Guadalupe	5,285	...								0.34	.....	0.14	0.0	3	28	0	3	w.	Agent E. P. & S. W. R. R.
Red River	Taos	8,650	...																	Mrs. L. R. Penn.
Rincon	Dona Ana	4,030	11	80.8	+ 1.7	106	12	60	29	38	1.27	− 0.68	0.52	0.0	3	5	16	10	e.	Chas. H. Raitt.
Rio Grande Dam	Sierra	4,265	11	81.1	+ 3.2	106	12	61	6	37	2.70	+ 0.58	0.99	0.0	13	7	19	5	s.	U. S. Reclamation Serv.
Rosedale	Socorro	6,910	5	70.6	.....	93	12	53	24	32	1.48	.....	0.59	0.0	13	14	6	11	w.	W. H. Martin.
Roswell	Chaves	3,578	12	79.0	+ 0.1	105	11	62	22	37	1.94	− 1.52	1.04	0.0	7	10	18	3	s.	U. S. Weather Bureau.
San Marcial	Socorro	4,439	14	79.2	+ 2.2	101	12	60	27†	39	.....	.....	.....	0.0	6	9	17	5	se.	Agent A. T. & S. F. R. R.
San Rafael	Valencia	6,509	6	75.0	.....	100	14	50	30	44	2.64	+ 0.70	1.38	0.0	7	18	10	3	w.	Dr. C. M. Grover.
Santa Fe	Santa Fe	7,013	37	69.8	+ 1.1	91	12	52	27	23	2.39	− 0.32	0.70	0.0	16	7	24	0	e.	Section Center.
Santa Rosa (1)	Guadalupe	4,624	10	78.6	.....	103	11	58	1	41	3.90	.....	0.75	0.0	13	9	22	0	s.	John L. Chapman.
Santa Rosa (2)	....do	4,624	...								2.53	− 0.35	0.80	0.0	8	...	...	...	.....	Agent E. P. & S. W. R. R.
Socorro	Socorro	4,600	19	77.8	+ 0.3	102	11	50	14	45	1.73	+ 0.13	0.31	0.0	8	23	7	1	s.	J. J. Leeson.
Stanley (near)	Santa Fe	6,317	...	70.6	.....	97	12	45	29	50	1.45	.....	0.75	0.0	5	19	4	8	.....	L. J. Cartwright.
Strauss	Dona Ana	4,080	11								0.35	− 1.12	0.10	0.0	4	17	9	5	nw.	Agent Southern Pac. R.R.
Taos	Taos	6,983	12																	Alexander Gusdorf.
Taos Canyon	....do	8,959	...										0.49	0.0	10	...	...	...	.....	Leocadio Martinez, jr.
Tecolote	Lincoln	6,539	...								3.35	.....	1.70	0.0	11	12	11	8	w.	Agent E. P. & S. W. R. R.
Three Rivers	Otero	4,559	...								1.32	.....	0.40	0.0	10	13	13	5	.....	Do.
Torrance	Torrance	6,433	...								3.14	.....	1.20	0.0	8	...	...	...	.....	Do.
Tres Piedras	Taos	8,076	5	67.0	.....	90	12†	44	28	41	1.75	.....	0.65	0.0	5	14	13	4	sw.	Edwin B. Seward.
Truchos	Rio Arriba	7,935	...			86	14†	.....	.....	.....	0.95	.....	0.35	0.0	4	4	27	0	.....	Ignacio Cordova.
Tularosa (1)	Otero	4,436	2	78.8[d]	.....	104[d]	12	60[d]	16	37[d]	1.85	.....	0.84	0.0	8	3	27	1	sw.	Irby L. Fairless.
Tularosa (2)	....do	4,436	...								0.80	.....	0.75	0.0	4	12	9	10	sw.	Agent E. P. & S. W. R. R.
Vaughn	Guadalupe	.....	...								2.54	.....	1.30	0.0	10	7	19	5	sw.	Do.
Winsors	San Miguel	8,200	12	63.2	+ 4.7	90	14	39	8†	49	5.16	+ 0.86	1.26	0.0	12	4	17	10	w.	Henry D. Winsor.
Texas.																				
Abilene	Taylor	1,738	24	84.8	+ 2.6	103	11	68	15	32	1.09	− 1.31	0.32	0.0	6	9	19	3	s.	U. S. Weather Bureau.
Albany	Shackleford	1,429	15	86.0	+ 4.4	106	10	65	15†	34	1.83	− 1.60	1.53	0.0	5	28	3	0	.....	N. L. Bartholomew.

TABLE 1.—*Climatological data for July, 1909. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Cont'd.																				
Alvin	Brazoria	49	10	.....	.....	.....	.....	.....	.....	.....	3.89	− 3.57	1.89	0.0	5	13	13	5	s.	F. A. Smith.
Anahuac§	Chambers	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.33	.....	1.73	0.0	6	.....	.....	.....	.....	B. H. Collins.
Austin	Travis	650	23	84.7ª	− 0.4	98ª	11	71ª	22	22ª	2.86	+ 0.08	2.62	0.0	5	11	18	2	sw.	A. Deussen.
Ballinger§§	Runnels	1,637	14	85.1	+ 3.2	108	10	66	26	34	1.82	− 1.38	1.55	0.0	2	24	3	4	s.	E. M. Eubank.
Barstow	Ward	2,573	2	85.2	.....	110	11†	65	23	34	4.50	.....	1.80	0.0	5	26	3	2	se.	W. H. Denis.
Beaumont	Jefferson	29	12	85.4	+ 2.8	99	4†	71	20	26	2.54	− 2.16	1.18	0.0	8	16	0	15	se.	Jno. Bender.
Beeville§§	Bee	225	13	84.5	− 0.6	99	17	69	31ª	26	4.17	+ 0.22	1.62	0.0	5	16	12	3	se.	L. E. Dickey.
Big Springs	Howard	2,396	7	85.3	.....	109	10†	64	23	32	0.65	.....	0.33	0.0	7	8	21	2	s.	B. Reagan.
Blanco§§	Blanco	1,350	13	84.5	+ 1.3	103	17	68	22	30	4.64	+ 1.12	3.60	0.0	3	22	8	1	s.	R. A. Crist.
Boerne	Kendall	1,412	17	83.6	+ 2.0	103	10†	62	31	37	6.90	+ 3.55	6.50	0.0	2	20	6	5	s.	F. W. Schweppe.
Booth§§	Fort Bend	81	8	.....	.....	.....	.....	.....	.....	.....	2.84	.....	1.29	0.0	7	25	0	6	se.	T. R. Booth.
Boquillas	Brewster	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. A. Ernst.
Bowie	Montague	1,113	9	87.8	.....	106	11†	71	21†	30	0.85	.....	0.46	0.0	4	16	15	0	s.	Craig Anderson.
Brazoria	Brazoria	25	20	83.6	+ 2.2	101	16	72ª	9†	29	7.61‖	+ 1.39	5.00‖	0.0	8	27	3	1	s.	Mrs. M. A. Stephens.
Brazos	Palo Pinto	801	.....	.....	.....	.....	.....	.....	.....	.....	2.16	.....	1.02	0.0	3	25	5	1	sw.	Robt. E. Boyett.
Brenham§§	Washington	350	20	85.6	+ 1.3	100	11†	72	20	25	1.73	− 1.82	1.30	0.0	5	16	9	6	se.	Mrs. B. F. Sloan.
Bridgeport§§	Wise	754	.....	.....	.....	.....	.....	.....	.....	.....	0.23	.....	0.12	0.0	2	27	1	3	s.	Thos. C. West.
Brighton	Nueces	12	13	83.8	.....	92	21†	73	19	18	0.05	.....	0.05	0.0	1	25	5	1	se.	G. H. Ritter.
Brownsville	Cameron	38	20	84.4	+ 1.3	99	21	72	1†	24	1.60	− 0.27	1.25	0.0	4	.....	.....	.....	s.	U. S. Weather Bureau.
Brownwood§§	Brown	1,342	19	86.6	+ 3.0	108	15	69	24†	32	0.47	− 1.64	0.14	0.0	5	20	9	2	s.	Mrs. Pearl Smith.
Cameron§§	Milam	.....	1	88.2	.....	106	14†	72	18	33	0.03	.....	0.02	0.0	2	12	18	1	s.	J. E. Watts.
Carmona	Polk	.....	1	84.6	.....	103	14	64	20	35	5.54	.....	5.38	0.0	4	16	15	0	s.	G. S. Warner.
Claytonville	Fisher	2,100	5	82.0	.....	102	9	62	22	30	1.95	.....	0.94	0.0	4	12	6	13	e.	Wm. Lanius.
Coleman	Coleman	1,710	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Tucker.
Colorado	Mitchell	2,066	15	84.4ª	+ 1.1	105	10†	66ª	23	35ª	2.75	− 0.58	0.60	0.0	8	19ª	5ª	6ª	s.	R. M. Webb.
Columbia	Brazoria	34	20	83.8	+ 1.8	101	16	70	9†	31	6.25‖	+ 2.15	5.00‖	0.0	3	20	9	2	s.	R. B. Loggins.
Columbus§§	Colorado	206	5	.....	.....	.....	.....	.....	.....	.....	5.02	.....	2.00	0.0	9	13	12	6	s.	Mrs. Sophie Bridge.
Comstock	Valverde	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Brown.
Corpus Christi	Nueces	20	22	83.5	+ 0.8	92	21	75	31	15	0.37	− 1.29	0.29	0.0	4	18	11	2	se.	U. S. Weather Bureau.
Corsicana§§	Navarro	445	20	88.2	+ 4.5	105	11	72	20	29	0.61	− 2.45	0.45	0.0	3	26	2	3	se.	E. L. Gibson.
Crockett	Houston	350	5	86.8	.....	105	13†	70	20	32	0.88	.....	0.38	0.0	7	12	17	2	s.	A. M. Rencher.
Cuero§§	DeWitt	177	20	86.2	+ 1.2	104	16†	69	18	32	4.31	+ 1.66	1.85	0.0	7	28	1	2	s.	H. R. Frobese.
Dallas§§	Dallas	466	20	87.6	+ 4.6	106	31	70	20†	31	T.	− 3.59	T.	0.0	0	22	0	9	s.	G. A. Eisenlohr.
Danevang	Wharton	145	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. P. Hermansen.
Decatur	Wise	1,047	3	84.7ª	.....	107ª	28†	67ª	23	34ª	0.22	.....	0.22	0.0	1	25ª	2ª	3ª	.....	Agent Ft. W. & D. C. Ry.
Del Rio	Valverde	952	3	85.0	+ 0.3	105	21	70	20	33	5.70	+ 3.48	3.53	0.0	5	18	9	4	se.	U. S. Weather Bureau.
Dialville	Cherokee	575	11	86.0	+ 5.1	102	13†	68	20	31	0.63	− 4.75	0.30	0.0	4	21	9	1	s.	J. V. McKnight.
Dublin§§	Erath	1,466	14	84.8	+ 3.5	102	11†	70	22	28	1.10	− 1.76	0.40	0.0	5	18	12	1	s.	Jno. O. Shafer.
Duval	Travis	820	20	85.0	− 0.9	100	15†	70	22	25	2.79	+ 0.05	2.15	0.0	2	15	14	2	s.	J. C. Edgar.
Eagle Pass	Maverick	800	20	90.3	+ 4.2	107	22	74	31	30	1.35	− 0.43	0.75	0.0	2	7	22	2	se.	Jos. Metcalfe.
Edna	Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.76	.....	3.00	0.0	7	7	13	11	s.	E. L. Faires.
El Paso	El Paso	3,762	30	81.8	+ 1.3	105	12	66	24	27	1.62	− 0.51	0.95	0.0	9	12	17	2	e.	U. S. Weather Bureau.
Encinal	La Salle	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. C. Braden.
Fairland	Burnet	.....	.....	86.8	.....	108	16†	61	30†	38	1.07	.....	1.07	0.0	1	1	20	10	s.	R. L. Bush.
Falfurrias	Starr	.....	2	86.4	.....	102	11†	68	17†	30	2.43	.....	2.08	0.0	3	26	4	1	se.	W. A. Gardner.
Flatonia	Fayette	465	1	85.0	.....	103	16†	71	18†	30	6.14	.....	5.30	0.0	5	12	16	3	s.	Julius Laux.
Fort Clark §§	Kinney	1,050	22	85.6	+ 0.6	103ª	14	70	19†	29	3.05	+ 1.12	2.00	0.0	5	19	8	4	e.	Post Surgeon.
Fort McIntosh	Webb	460	23	91.2	+ 3.8	106	10†	75	1	26	1.61	− 0.33	0.80	0.0	4	24	0	7	e.	Do.
Fort Stockton	Pecos	3,050	4	81.6	.....	110	11	64	3	37	5.21	.....	3.18	0.0	5	4	26	1	se.	H. H. Butz.
Fort Worth	Tarrant	670	14	87.4	+ 4.5	104	11	72	21	26	0.02	− 3.02	0.02	0.0	1	22	9	0	s.	U. S. Weather Bureau.
Fredericksburg	Gillespie	1,742	20	83.2ª	+ 1.7	102ª	9	68ª	22	31ª	6.71	+ 4.56	6.15	0.0	2	26	4	1	s.	Arthur Striegler.
Gainesville	Cooke	738	20	88.0	+ 6.0	106	9†	70	26†	31	0.72	− 3.83	0.60	0.0	2	.....	.....	.....	.....	J. L. Hickson.
Galveston	Galveston	69	39	84.0	+ 1.0	91	20	72	21	12	0.61	− 3.37	0.50	0.0	3	15	13	3	se.	U. S. Weather Bureau.
Gatesville	Coryell	795	5	86.5	.....	104	16	70	1†	28	0.50	.....	0.50	0.0	1	24	7	0	.....	John Ryan.
Georgetown§§	Williamson	750	14	86.4	+ 2.3	106	16	70	1†	32	0.65	− 3.02	0.58	0.0	3	26	4	1	s.	Prof. R. E. Young.
Gonzales§§	Gonzales	299	4	.....	.....	.....	.....	.....	.....	.....	4.19	.....	3.66	0.0	4	16	10	5	s.	J. M. Johnson.
Graham	Young	1,040	5	88.6	.....	109	10†	66	27	35	2.85	.....	1.32	0.0	4	.....	.....	.....	.....	C. W. Johnson.
Grandfalls	Ward	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. C. Bridwell.
Grapevine	Tarrant	670	19	88.2	+ 5.0	106	11	71	3†	29	0.77	− 2.82	0.70	0.0	2	15	16	0	s.	W. J. Crowley.
Greenville§§	Hunt	550	9	88.3	.....	107	10†	69	21	30	1.35	.....	0.70	0.0	4	16	0	15	s.	J. P. Regan.
Hallettsville	Lavaca	235	18	86.1	+ 2.1	103	15	73	17†	27	8.90	+ 6.23	8.50	0.0	4	18	8	5	s.	Dr. J. E. Lay.
Haskell	Haskell	4,013	18	88.3	+ 3.6	109	11	70	23†	37	1.25	− 0.04	0.61	0.0	3	7	20	4	s.	P. D. Saunders.
Hebbronville	Duval	.....	2	.....	.....	.....	.....	.....	.....	.....	3.22	.....	3.22	0.0	0	1	.....	.....	.....	Henry Edds.
Hempstead§§	Waller	254	5	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.99	0.0	2	19	4	8	s.	J. H. Hancock.
Henderson	Rusk	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.08	.....	0.05	0.0	2	18	8	5	.....	M. Kangerga.
Hewitt	McLennan	664	14	.....	.....	.....	.....	.....	.....	.....	0.59	− 3.14	0.35	0.0	3	.....	.....	.....	.....	I. H. Earle.
Hillsboro	Hill	628	17	87.8	.....	103	11	70	24	31	0.23	− 2.87	0.23	0.0	1	.....	.....	.....	.....	Thompson & Campbell.
Hondo	Medina	901	7	89.6	.....	103	11†	73	20†	24	2.71	.....	1.83	0.0	2	18ª	11ª	1ª	.....	H. E. Haas.
Houston§§	Harris	53	20	85.3	+ 2.3	103	16	73	18†	29	2.53	− 1.31	0.80	0.0	7	24	0	7	s.	O. O. Ballard.
Hubbard	Hill	638	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. C. Mecklin.
Huntsville§§	Walker	400	21	84.7	+ 1.3	99	13†	70	20	25	1.38	− 2.24	0.63	0.0	4	26	0	5	se.	W. Y. Barr.
Jewett§§	Leon	496	5	87.1	.....	109	15	68	22	36	2.79	.....	1.61	0.0	6	13	10	8	s.	Earle Adkisson.
Junction	Kimble	1,645	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. Rowsey.
Kaufman	Kaufman	448	10	88.5	+ 4.5	104	11	70	20	29	0.25	− 5.49	0.25	0.0	1	24	7	0	s.	B. J. Hubbard.
Keene	Johnson	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Industrial Academy.
Kerrville§§	Kerr	1,650	14	82.5	+ 1.7	102	16	65	20	35	9.81	+ 6.41	8.20	0.0	5	5	13	13	s.	Mrs. F. Coleman.
Knickerbocker	Tom Green	2,050	5	84.1	.....	104	10†	66	18	32	3.19	.....	1.76	0.0	5	22	5	4	s.	Jos. Tweedy.
Kopperl	Bosque	576	9	.....	.....	.....	.....	.....	.....	.....	1.50	.....	1.50	0.0	1	17	11	3	s.	T. A. Johnson.
Lampasas§§	Lampasas	1,026	18	86.3	+ 3.7	105	9†	69	22	32	0.69	− 1.22	0.36	0.0	2	27	3	1	s.	Mrs. K. I. Webber.
La Parra	Cameron	38	7	.....	.....	.....	.....	.....	.....	.....	1.60	.....	1.00	0.0	2	.....	.....	.....	.....	Jno. G. Kennedy.
Laureles Ranch	Nueces	20	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Matt Cody.
Liberty§§	Liberty	38	5	83.1	.....	101	15	70	13†	29	5.17	.....	1.32	0.0	11	20	6	5	s.	Mrs. Fannie Sneed.
Llano	Llano	1,040	18	87.6	+ 2.8	106	10	68	22	29	1.03	− 0.93	1.00	0.0	2	29	1	1	se.	E. W. Torrence.
Llano Grande	Hidalgo	.....	1	83.2	.....	102	21	64	1†	34	0.11	.....	0.10	0.0	2	29	0	2	se.	M. D.Wardlaw.
Long Lake§§	Anderson	.....	4	.....	.....	.....	.....	.....	.....	.....	0.76	.....	0.50	0.0	3	.....	.....	.....	e.	Geo. Ellis
Longview§§	Gregg	336	20	87.2	+ 2.9	106	9	72	24†	29	1.45	− 2.38	0.63	0.0	6	19	1	11	se.	C. A. Propst.
Lufkin	Angelina	325	2	84.2	.....	100	13†	70	20†	28	3.68	.....	1.11	0.0	6	16	11	4	s.	T. A. King.
Luling§§	Caldwell	418	20	86.4	+ 1.8	103	15	71	22	26	4.96	+ 2.28	4.80	0.0	3	17	8	6	s.	John Carter.
Marble Falls§§	Burnet	771	1	.....	.....	.....	.....	.....	.....	.....	2.09	.....	1.00	0.0	5	11	14	6	sw.	Wm. Harrison.
Marfa	Presidio	.....	1	.....	.....	.....	.....	.....	.....	.....	3.10	.....	1.70	0.0	5	.....	.....	.....	.....	R. K. Colquitt.
Marshall	Harrison	375	.....	85.5	.....	102	9†	69	24†	27	1.56	.....	0.61	0.0	6	2	25	4	s.	Lee Scott.
Mexia§§	Limestone	537	5	85.9	.....	103	15	70	19†	30	0.23	.....	0.10	0.0	3	10	14	7	w.	Miss Josephine Newman.
Midland	Midland	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.25	.....	1.00	0.0	2	18	10	3	.....	H. J. Elder.
Mt. Blanco	Crosby	2,750	21	82.0	+ 3.0	103	11	58	18	37	1.69	− 1.61	0.96	0.0	3	11	3	17	s.	H. C. Smith.
Nacogdoches§§	Nacogdoches	271	10	83.6	+ 1.4	98	13†	69	20	26	4.33	− 1.08	4.00	0.0	3	18	10	3	s.	Miss Mary Hofmann.
New Braunfels	Comal	720	20	85.7	.....	100	3†	69	22	25	3.77	+ 1.01	3.77	0.0	1	11	19	1	e.	J. Giesecke.
Palestine	Anderson	510	27	84.4	+ 2.9	99	15	72	20	24	0.80	− 2.20	0.52	0.0	4	7	16	8	s.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1909. District No. 8*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Texas—Cont'd.																				
Panter	Hood	1,000	19																	E. H. Snider.
Pierce	Wharton		3	80.7		96	17	68	2†	27	5.66		3.83	0.0	8	12	18	1		R. B. Pointer.
Plainview	Hale	3,370	1	78.8		101	11	59	23	34	3.37		1.45	0.0	4	14	15	2	se.	J. F. Sander.
Port Lavaca	Calhoun	20	8	84.4		96	16†	73	17†	23	5.32		3.78	0.0	3	23	6	2	se.	J. H. Bickford.
Ricardo	Nueces			86.1		101	16†	71	17†	29	0.23		0.23	0.0	1	19	12	0	s.	Lindsay Waters.
Riverside‡‡	Walker	169	5								1.10		0.70	0.0	2	22	0	9	s.	Mrs. C. W. Higdon.
Robert Lee‡‡	Coke	1,850	1	84.4		105	11	67	18	29	1.73		0.61	0.0	6	25	4	2	se.	H. D. Pearce.
Rockland‡‡	Tyler	136	5								2.53		0.96	0.0	4	17	5	9	s.	D. W. Bellamy.
Rosseville	Atascosa	558	2	87.8		106	11†	71	22	32	3.72		2.45	0.0	6	5	26	0	se.	W. F. M. Ross.
Runge	Karnes	308	14								1.52	− 1.96	0.63	0.0	3					Reiffert & Frobese.
Sabinal	Uvalde	964	5	87.2		103	9†	71	20†	30	1.40		1.08	0.0	3	7	12	12	e.	Jas. Johnston.
San Angelo	Tom Green		1																	C. W. Goff.
San Antonio	Bexar	701	24	85.8	+ 3.4	102	3	70	22	27	3.27	+ 1.05	2.89	0.0	5	15	15	1	se.	U. S. Weather Bureau.
San Augustine	San Augustine			85.4		102	14	69	20	28	1.85		0.72	0.0	8	14	10	7		F. A. Wilson.
San Juanita‖	Hidalgo			88.7[b]		105	21	71[d]	31	30[d]	0.02		0.02	0.0	1	3	24	4	se.	J. B. McAllen.
San Marcos‡‡	Hayes	588	16	85.4	+ 1.9	101	15	70	22	25	3.45	− 0.45	3.00	0.0	2	20	0	11	s.	Miss L. C. Ford.
San Saba	San Saba	1,712	5	84.8		103	9†	66	18	33	0.36		0.20	0.0	3	27	3	1	s.	Jas. Burns.
Santa Gertrudes	Nueces		7																	J. B. Wright, jr.
Seymour	Baylor	1,180	3	85.6		104	11†	69	17†	30	0.67		0.22	0.0	7	20	11	0	s.	F. M. Deaver.
Somerville	Burleson	251						72	28		0.08		0.08	0.0	1	24	0	7	e.	W. A. Dolan.
Sonora	Sutton	2,200	6	81.6		101	16	65	1†	34	4.46		1.85	0.0	6	6	20	5	s.	Mike Murphy.
Sugarland	Fort Bend	79	11	84.2	+ 1.7	100	14†	71	19	27	2.63	− 2.80	0.92	0.0	6	18	11	2	s.	O. M. Bakke.
Taylor	Williamson	583	8	85.4	+ 2.7	101	15	67	22	26	1.23	− 1.39	0.20	0.0	4	23	7	1	s.	U. S. Weather Bureau.
Temple	Bell	630	15	86.7	+ 3.7	104	16†	70	19	29	0.77	− 2.32	0.48	0.0	4	26	4	1	s.	W. B. Tyer.
Tilden‖	McMullen		3	89.0		108	11	70	20	33	1.05		0.57	0.0	3	6	12	3	se.	Wm. Kuykendall.
Uvalde	Uvalde	937	1	86.4		103	15†	70	7†	30	3.54		1.42	0.0	5	21	0	10	se.	F. M. Getzendaner.
Valley Junction‡‡	Robertson	289	4																	T. M. Williams.
Victoria‡‡	Victoria	187	11	85.9	+ 1.7	97	16†	72	19†	23	5.22	+ 1.27	2.15	0.0	5					C. C. Zirjacks.
Waco‡‡	McLennan	424	20	89.6	+ 4.2	105	15	75	3	26	0.46	− 2.17	0.25	0.0	2	25	2	4	s.	E. H. Hall.
Waxahachie‡‡	Ellis	556	13	87.4	+ 3.8	107	8	67	21	31	2.63	− 0.40	1.35	0.0	5	22	5	4	e.	C. D. Longserre.
Weatherford‡‡	Parker	864	20	88.1	+ 4.5	106	11	72	3	28	T.	− 3.09	T.	0.0	0	27	1	3	n.	Miss J. Stickfort.
Wharton‡‡	Wharton	105	7	83.2[a]		97[a]	10†	66[a]	23	29[a]	4.79		3.17	0.0	7	19[a]	5[a]	6[a]	s.	Mrs. F. M. Hughs.
Wills Point	Van Zandt	524	4								0.40		0.40	0.0	1					W. W. Gibbard.
Zapata	Zapata			89.4		106	5†	71	20	33	1.01		0.93	0.0	2	14	16	1	se.	F. H. Earnest.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.
‡‡ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
¶ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 8, Texas and Rio Grande Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado																																	
Amethyst (near)	Rio Grande			T.	.26										T.	.01	T.			T.	T.	T.	.14	.11	T.	T.					T.	.18	0.70
Blanca	Trinchera																																
Cumbres	Conejos					.50										T.			T.	T.	T.	.25	.10	.05	.05							0.95
Garnett	Rio Grande																																
Hermit	...do				.10	.12	.80								T.	.36							.19					T.			T.	T.	1.57
La Veta Pass	Trinchera																																
Manassa	Conejos																																
Platoro	...do																																
Saguache	San Luis																																
San Luis	Culebra			.26	.32	.03				.01					.18	.03						.07	.05	.10	.15	.05	.01					.55	1.81
Wagon Wheel Gap	Rio Grande																																
New Mexico																																	
Agricultural College	Rio Grande	T.		.48												T.	.01				.04			.09		.01					.08	0.71
Alamogordo (near)	...do	.14	T.											T.									48									0.62
Alamogordo (2)	...do	.40															.13	.05							.64							1.22
Albuquerque	...do																		.07				25	.03	.33	.12	.05					
Amizett	...do			T.	T.	.16			T.					.04	.03	T.	.09		.03	T.	.08	.02	.08	.13	.80	.01	T.				.03	.28	1.78
Ancho	...do			1.00	.50	.50	.50														.50											3.00
Aspen Grove Ranch	...do																			.65		.52							.30		.22	
Bateman's Ranch	...do																																
Bluewater	...do				.37	.10											.25				.24			.47		.05					.15	1.63
Bluewater Reservoir	...do				1.00	T.										T.			.40				35				T.			T.		1.75
Boaz	Pecos																	.17						.20	.30	.08				82			1.57
Capitan	...do	.50			.20	.20	.16								.04		.23				.12		.10	.20	.44	.02					.03	.03	2.27
Carlsbad	...do	.11				.11			.05							.36		.04						1.09	.84		1.06						3.66
Carrizozo (1)	Rio Grande	.05	.06	.02			.06		T.						.04	.38				T.				.46		.30	.20			1.01			2.58
Carrizozo (2)	...do	.50		.09		.02	.09									.48	.25							.54	.30	.32				1.09			3.68
Chama	...do			.13	.08		.36														.25	.70	.10	T.	.51	T.					.20	2.33
Cloudcroft (1)	Pecos																																
Cloudcroft (2)	...do	.25	.20	.23	.63	.21	.23	.19	.03	.02						T.					1.2			.65	.53					32	T.		4.69
Corona	...do			T.	T.	T.	.01	T.	1.00						T.	.40							85	T.							.67		2.93
Coyote	Rio Grande	.12						.05	.02					.17		.55										19							1.10
Cundiyo	...do			.06												.06		C6					20			.12	.04					26	0.80
Demonstration Farm	Pecos				.46	.05	.60							.32		.07									1.04							.18	2.72
Duran (1)	...do	.10			.03		.10	.01								.10								.10		.05				.15		0.64
Duran (2)	...do																																
Edison Mine	Rio Grande																																
Elk (near)	Pecos	T.	.83				.18			.41										.05			.05	.73	2.87	.41	.31			T.	T.		5.84
Escondido	Rio Grande						.16		.27								T.			.44			T.		.31	T.	.09			.15			1.42
Espanola	...do			.07		.04	T.						T.			T.								.37								0.48
Estancia	...do			.01	.11			T.		.09			.09				.22		T.		.13			.05			.02			.27		T.	0.99
Fort Stanton	Pecos	.30			T.	.10	.70	.70							T.	T.	.28				T.	T.		.50	.48	.07	.04			.01	.10		3.28
Fort Sumner	...do	.48	.08	T.			T.									T.	.05	T.					T.	.08	.28	.03				T.	.06	T.	1.06
Gallinas	...do						.41		.12					.03	.10	.10						.10		.58	.20	.06				.06			1.76
Gallinas Planting Stat	...do	.14			1.00		.76			T.	T.			.46	.13	.18	.28				.31	T.	1.40	.02		.37					.01	.05	5.11
Harvey's Upper Ranch	...do	.04		T.	.48	.25	1.00			T.			T.	.10	.52	.08	T.			T.	.09	T.	1.47	.12	.98	.13					.09	.06	5.41
Hillsboro	Rio Grande	T.			T.		T.								.16		.24	.30		.08	T.	.27		.11					.10				1.26
Hodges	...do				T.			T.					T.				T.		T.		T.				.87	.63	.37				.13	.63	2.63
Hondo Reservoir	Pecos		.85				.03																	.37	1.07	.25	.05						2.62
Hope	...do																																
Hopewell	Rio Grande		T.		T.					T.						.01	.01	.05	T.	.02	.16	.04	.19	.03	.29	T.					.03	T.	0.83
Laguna	...do			.10		.50								T.	T.						T.	T.	T.		.50	.35				.06			1.45
Lagunita	Pecos	.14							.38							.03									.04								0.65
La Huerta	...do	.05					.16			.09							.15							.30	1.62	1.15	.15						3.67
Lake Valley	Rio Grande	T.			T.	T.	T.							.28		.21	.25	.05	.08	.03	.01	.01	.07	.14		.05				24			1.40
Las Vegas	Pecos	.11		.04		.42	.02	T.						.35		.05	.04				.09	T.	.01	.06		.34					T.	T.	1.53
Los Lunas	Rio Grande				T.		T.																T.	T.	T.							T.	
Los Tanos	Pecos	.60			.25										.52	.15	.10										.31					.02	1.95
Magdalena	Rio Grande					.16									.50	.35		.38	.80				.15	.90		T.				.34		T.	3.58
Mineral Hill	Pecos				.22									1.13	.40		.16						1.10			.06					.50	T.	3.57
Monument	...do																																
Mountainair	Rio Grande			.10	.12	.12	T.	.04	T.				.27		.30	T.				T.	T.	T.	T.	T.		.44	.52				.40		2.31
Newman	...do		T.		.01	T.																			.15	.58	T.						0.74
Noria	...do				.04	.20																.04	.50	.80		.03							1.61
Orogrande	...do	T.	T.				.06		.02													T.		T.	.06	.01	.02						0.17
Oscura (near)	...do								.14	.08				.11		.40	.80			.08				.12	.12	.04	.18					.04	2.11
Oscura (2)	...do		.01						.09	.14				.04		.14	.99			.06	.04	.01		.09	.07	.04	.16					.06	1.94
Otis	Pecos	T.				T.	T.		.01								.05	T.						.22	1.13	1.14	.66						3.21
Otto	Rio Grande		T.	.20	.05	.25			.02					.27	T.	.01					.07					.01					.39		1.27
Pastura	Pecos						.14	.14							.06																		0.34
Red River	Rio Grande																																
Rincon	...do					.33		T.						T.		T.		.42														.52	1.27
Rio Grande Dam	...do	T.		.11	.99	.02	.05		T.					.15			.33		.08	.40	.19	.07	T.	.07		T.	T.		T.	.09	T.	.15	2.70
Rosedale	...do		T.		.14	.10	.15		.06		T.			.01		.07				.01		.07	.59	.13		.03	.04					.58	1.48
Roswell	Pecos		.23			.18	.05									.01				T.				.15	1.00	.32	T.						1.94
San Marcial	Rio Grande														T.	.35						.14		1.38	.06		.30						2.64
San Rafael	...do				.34	.07																											
Santa Fe	...do	.05	T.	T.	.20	.08	.02							.37	.01	.01	.08	.13		.05	.51	.26	T.	.04	.01	.53					T.	.04	2.39
Santa Rosa (1)	Pecos	.34		.12	T.	T.	.13	.01		.69				.09	.47	.43		.05						.02	T.		.24	.56			.75	T.	3.90
Santa Rosa (2)	...do	.35		.20			.10			.20				.10	.68									.10				.80					2.53
Socorro	Rio Grande					.26	.07								.20	.10						.31			.28		.20			.31			1.73
Stanley	...do				.05	.75								.05		.05										.55					T.		1.45
Strauss	...do				.10	.10	T.									.05					.10											0.35
Taos	...do																																
Taos Canyon	...do														.03	.12				T.	.02	.21	.05	.37	.06	.35				.49	.16		
Tecolote	...do	.01		T.	T.	T.	.01	.08		.25				T.	1.70	T.	.42				.04		.08	.51	.23		.02						3.35
Three Rivers	...do								.25	.01						.30	.07	.05	.05				.02		.17	.05	.35						1.32
Torrance	Pecos				.30	1.20	.10		.70						.50	.09							T.	.10		.15							3.14
Tres Piedras	Rio Grande				.65	.20										T.					.20		.60	T.							10	1.75
Truchas	...do				.30																				T.						.20	.35	0.95
Tularosa (1)	...do	.35			.03											.21	.26	T.	.09		.04		T.		.84		T.						1.85
Tularosa (2)	...do	.01	T.													.03		.01	T.						.75								0.80
Vaughn	Pecos	.22		.07	.01		.33										1.30						.11	.02	.05	.21					.22		2.54
Winsors	...do		.84	.20		.33	.29		.18							.16			.24				.51	.40	.35	.40						1.26	5.16
Texas																																	
Abilene	Brazos	.17	.17		.19											.32					.22						.02						1.09
Albany	...do														1.53	.08	.04						.08				.10						1.83
Alvin‖	Coast				T.		1.89											1.41	.47	.39		.41	.58		.29						.66		3.89
Anahuas	...do			1.73															.31				.08										4.33
Austin	Colorado					.06													.05		2.62		.09							.04			2.86
Ballinger‖	...do			T.															T.		.27			1.55								1.82
Barstow	Pecos	.55																					T.	1.80	1.13	.58	.44						4.50
Beaumont	Neches																.21	.07	1.18	.18	.08	.68	.06	.08									2.54
Beeville‖	Coast		1.62	.95															.06		.04	1.50											4.17
Big Springs	Colorado	.13	T.	T.				.02			T.							.02						T.	.33		.02	.10		.02			0.65

TABLE 2.—*Daily precipitation for July, 1909. District No. 8*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																															
Blanco	Guadalupe																		.28				3.60	.76									4.64
Boerne	San Antonio																T.	T.	T.				6.50	.40									6.90
Booth	Brazos						.43												.35				1.29	.19				.38		.10	.10		2.84
Boquillas	Rio Grande																																
Bowie	Trinity	.46	.19				T.													T.				.04				.16				T.	0.85
Brazoria	Brazos	.03		.03	.09	.17												.16	.05			5.00	.03		2.05								
Brazos	...do																		1.00	1.02					.14								2.16
Brenham	...do				.03		.01	T.											T.	.20			1.30	.19						T.			1.73
Bridgeport	Trinity																.11											.12					0.23
Brighton	Coast					.05																											0.05
Brownsville	Rio Grande	1.25		.19																.09										T.	.07		1.60
Brownwood	Colorado		.14	.02	.11													T.	T.			T.	.10	.10								0.47
Cameron	Brazos																			.01		.02											0.03
Carmona	Neches		.01	T.	T.	.12													T.	.03		T.			5.38				T.	T.	T.		5.54
Claytonville	Brazos	.21	.50						.30							.94																	1.95
Coleman	Colorado																																
Colorado	...do		.54			.58					.13	.12					.43							.18	.03		.14		.60				2.75
Columbia	Brazos			.10														1.15				5.00	T.	T.	T.	T.	T.			T.			
Columbus	Colorado				.32	.42	.50												1.30	.12			2.60	.06	.16						.14		5.02
Comstock	Rio Grande																																
Corpus Christi	Coast				.02	.06			T.										T.			.07	.22										0.37
Corsicana	Trinity	.13																						.45	.03								0.61
Crockett	...do		T.		.07	.14												T.	.62	.04		.02	T.		.21						.38		0.88
Cuero	Guadalupe	.09			.42														1.24	.61			1.75	.08	.12								4.31
Dallas	Trinity			T.																													T.
Danevang	Coast																																
Decatur	Trinity																		T.				.22	T.									0.22
Del Rio	Rio Grande	.75					1.53	.07															2.53	.82									5.70
Dialville	Neches	T.	.10				T.												.03				.20	T.	.30								0.63
Dublin	Brazos				.17														.40	.10			.35	.08									1.10
Duval	Colorado			.64			T.												T.	T.			T.	2.15						T.			2.79
Eagle Pass	Rio Grande	.60				.75																											1.35
Edna	Lavaca			T.	1.10	.60		T.						T.					.68	.08	T.	3.00	.30	T.	1.00	T.		T.	T.	T.			6.76
El Paso	Rio Grande	.03	.04	.09	.07	.95										.04			.01				T.	T.	.18	.21	T.						1.62
Encinal	Nueces																																
Fairland	Colorado			T.														T.				1.07											1.07
Falfurrias	Coast	2.08																		.17										.18			2.43
Flatonia	Guadalupe					T.	T.											.05	.74			.30	5.00	T.	.05								6.14
Fort Clark	Rio Grande		.18			.07	.10	.70																2.00									3.05
Fort McIntosh	...do	.47					.26													.80	.08												1.61
Fort Stockton	Pecos	.59						.17										T.					T.	3.18	.10	1.26	T.		T.				5.21
Fort Worth	Trinity		T.																T.				.02					T.					0.02
Fredericksburg	Colorado																	.56			T.		6.15										6.71
Gainesville	Trinity		.60																				.12										0.72
Galveston	Coast			T.		T.												.08	T.			.50					T.				.03	T.	6.61
Gatesville	Brazos														.50																		0.50
Georgetown	...do																			.02			.58	.05									0.65
Gonzales	Guadalupe				.26															.17		3.66	.10										4.19
Graham	Brazos	.53															.10	.90										1.32					2.85
Grandfallo	Pecos																																
Grapevine	Trinity	.07	.70																	T.													0.77
Greenville	Sabine	.35																.20		.70	.10												1.35
Hallettsville	Lavaca		.10		.15												T.	T.				T.	8.50	T.	T.					.15			8.90
Haskell	Brazos	.40																						.24				.61					1.25
Hebbronville	Coast	3.22																															3.22
Hempstead	Brazos																						.40	.99	T.		T.						1.39
Henderson	Neches		.03																T.	.05		T.	T.										0.08
Hewitt	Brazos		.20				.04										T.		T.				.35										0.59
Hillsboro	...do	.23																															0.23
Hondo	Nueces	T.																		.88			1.83										2.71
Houston	Coast				.30		.23												.80	.05			.40	.70				.05		T.			2.53
Hubbard	Trinity																																
Huntsville	...do						.35												.30	T.			.63	.10									1.38
Jewett	...do	.10	.21															T.		.50		.32	T.		1.61	.05							2.79
Junction	Colorado																																
Kaufman	Trinity	T.																	.25														0.25
Keene	Brazos																																
Kerrville	Guadalupe					.45													.27				.64	8.20	.25								9.81
Knickerbocker	Colorado	.06			T.			.14									T.	.48			T.		.75	1.76									3.19
Kopperl	Brazo	1.50																															1.50
Lampasas	...do																						.33	.36									0.69
La Parra	Coast	1.00	.60																														1.60
Laureles Ranch	...do																																
Liberty	Trinity				.16	.65	.16	T.											.73	.43		1.08	T.	.26	1.32	T.	.14	.20	.04	T.	T.			5.17
Llano	Colorado																						1.00	.03					T.				1.03
Llano Grande	Rio Grande																		.01											.10			0.11
Long Lake	Trinity			.10																	.16					.50							0.76
Longview	Sabine	.16			.07																		.41	.14	.63		.04						1.45
Lufkin	Neches				.08	1.07												.20	.32			T.	.90		1.11								3.68
Luling	Guadalupe				.08																		4.80	.08									4.96
Marble Fall	Colorado				.06														1.00	.10			.75	.18									2.09
Marfa	Rio Grande												.40							.30				.50	1.70		.20						3.10
Marshall	Sabine		.40				T.												.01			.01	.61	.51							.02		1.56
Mexia	Brazos		.08																				.05	.10									0.23
Midland	Colorado																							1.00		.25								1.25
Mount Blanco	Brazos							T.		.57							.16	T.									.96						1.69
Nacogdoches	Neches	T.																	.26				T.	.07	4.00								4.33
New Braunfels	Guadalupe																		T.			3.77											3.77
Palestine	Trinity	T.				.01												.52		.01		T.	T.		.26								0.80
Panter	Brazos																																
Pierce	Colorado				41	.06													.11	.42		3.83	.18		.44					.21			5.66
Plainview	Brazos			.34						.23														1.45		T.	1.35							3.37
Port Lavaca	Coast	.42	T.		T.	T.													1.12			3.78		T.	T.			T.					5.32
Ricardo	...do	.23																												T.	T.		0.23
Riverside	Trinity																		T.				T.	.70	.40								1.10
Robert Lee	Colorado						.02										.01	.24					.42	.61					.43				1.73
Rockland	Neches						.25																.54	.96		.78							2.53
Rossville	Nueces	.08				.03													.51	.60	.05	T.	2.45										3.72
Runge	San Antonio	.56																	.33			.63											1.52
Sabinal	Nueces							.05											.27				1.08										1.40
San Angelo	Colorado																																
San Augustine	Neches	.10	.10	T.			.05											.72	.62			.03	.08		.15		T.					T.	1.85
San Antonio	San Antonio	.26			T.														.09	.03		.07	2.82										3.27
San Juanita	Coast	.02																		T.													0.02
San Marcos	Guadalupe																		.45			3.00											3.45

TABLE 2.—*Daily precipitation for July, 1909. District No. 8*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Texas—Cont'd.																															
San Saba	Colorado																	.02					.14	.20									0.36
Santa Gertrudes	Coast																																
Seymour	Brazos	.22	.02													.10	.13	.06					T.	.04	T.		T.	.10					0.67
Somerville	do																			T.		.08		T.									0.08
Sonora	Rio Grande	.27	.49					1.12										.08					.65	1.85									4.46
Sugarland	Brazos			T.		.92												.52				.86	.08			.03			.22		T.		2.63
Taylor	do			.02			T.											.01				.11	1.09	T.		T.							1.23
Temple	Brazos			.21															.08				.40	.08									0.77
Tilden	Nueces	.38																		.57			.10										1.05
Uvalde	do	.08					1.42	.48												.97			.59							T.			3.54
Valley Junction	Brazos																			2.05			2.15										6.50
Waco	Brazos	1.28	.05		.27		.70															.21	T.		.25								0.46
Waxahachie	Trinity	.12		.08														T.	.33	.75					1.35								2.63
Weatherford	do																T.	T.						T.									T.
Wharton	Colorado																		.07		.15	3.17	T.			.30	.31	.08			.71		4.79
Wills Point	Sabine																		T.	T.	.40												0.40
Lapata	Rio Grande	.93																			.08												1.01

TABLE 3.—*Maximum and minimum temperatures at selected stations July, 1909. District No. 8, Texas and Rio Grande Valley.*

Date.	Colorado.				New Mexico.																Texas.							
	Garnett.		San Luis.		Agricultural College.		Carlsbad.		Fort Stanton.		Mountainair.		Rosedale.		Roswell.		Santa Fe.		Santa Rosa.		Abilene.		Big Springs.		Brownsville.		Corpus Christi.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	85	44	83	50	90	64	89	67	77	48	82	55	82	59	85	64	81	58	81	58	89	69	89	69	87	72	84	79
2...	88	43	82	48	91	74	89	67	80	55	86	55	80	55	87	67	78	53	88	64	91	72	95	69	92	76	86	81
3...	85	44	84	47	94	71	94	67	84	52	90	58	82	57	91	67	81	56	94	63	95	72	98	68	93	76	90	77
4...	87	45	79	49	90	68	97	65	84	57	94	55	80	56	94	66	81	59	94	65	95	76	101	76	92	76	92	79
5...	80	43	78	53	92	69	97	71	83	56	90	59	73	59	94	68	81	58	90	64	95	75	101	75	90	79	86	77
6...	84	44	82	54	90	62	100	68	84	55	84	59	77	59	95	71	78	59	91	69	95	76	98	74	91	80	87	83
7...	84	42	80	51	98	69	99	68	88	58	91	61	88	56	91	68	86	56	97	64	93	75	92	73	92	78	87	81
8...	88	43	83	44	97	67	99	70	86	58	94	54	90	68	93	69	87	60	96	64	97	75	101	74	91	80	89	80
9...	87	43	85	42	99	68	103	73	87	58	91	54	89	58	95	66	86	57	99	68	100	76	106	75	93	76	90	76
10...	87	42	81	41	102	72	108	70	94	56	94	59	89	62	100	67	85	58	100	65	102	78	109	78	92	77	88	77
11...	89	40	86	44	104	73	110	70	94	54	97	58	92	60	105	68	89	58	103	63	103	80	107	78	93	79	89	79
12...	89	49	86	43	106	67	107	68	93	55	98	59	93	63	99	63	91	58	95	65	101	78	109	77	91	80	88	79
13...	91	42	84	49	101	68	99	72	85	58	97	58	87	62	96	71	87	56	99	65	99	78	101	76	92	80	87	81
14...	79	41	83	46	99	65	99	68	91	54	94	53	82	60	97	66	86	60	101	60	99	77	103	74	92	77	87	80
15...	81	44	80	46	97	68	100	68	90	56	88	57	86	59	95	69	83	62	92	61	100	68	103	77	92	77	89	79
16...	87	48	82	50	95	69	95	71	89	54	90	52	86	55	92	65	84	58	95	60	97	73	102	75	93	77	89	78
17...	87	44	.....	51	97	68	100	66	89	57	97	54	86	57	95	62	82	62	95	61	93	74	92	73	94	74	91	76
18...	86	44	.....	48	95	68	96	64	86	58	90	55	83	61	93	65	83	61	95	61	94	70	95	65	94	74	87	77
19...	84	55	.....	47	92	64	97	69	86	55	85	54	78	55	92	68	81	60	95	65	93	72	95	72	91	76	87	79
20...	85	48	.....	54	92	66	94	68	85	56	88	59	84	56	91	66	79	67	94	65	94	73	99	73	91	74	91	77
21...	83	47	.....	48	91	69	97	65	88	56	90	56	83	55	94	62	83	58	98	61	95	71	99	73	99	75	92	78
22...	72	54	.....	45	94	67	99	68	84	58	80	57	78	55	92	67	76	58	86	68	85	73	86	69	92	76	88	80
23...	77	50	.....	52	84	68	89	66	71	57	75	57	74	58	85	64	75	55	86	65	90	72	76	64	92	78	86	81
24...	77	51	.....	49	86	66	77	64	65	56	78	51	78	53	75	63	76	56	88	60	94	72	95	68	93	77	86	80
25...	81	46	.....	47	93	69	78	67	77	58	84	58	76	59	80	65	77	54	90	63	94	75	94	72	93	76	87	80
26...	80	47	73	47	93	69	91	68	84	58	81	57	81	57	86	65	76	58	92	63	94	74	92	69	91	80	88	81
27...	81	42	80	48	93	66	94	69	84	55	85	54	81	57	92	64	78	52	93	67	96	76	99	75	91	79	88	81
28...	82	45	80	41	96	64	98	69	81	51	88	52	85	56	94	64	81	56	96	62	96	76	101	75	91	78	87	80
29...	81	47	81	43	95	71	93	69	86	56	93	57	86	56	93	67	85	58	99	59	97	74	98	73	92	76	87	79
30...	87	46	86	45	93	63	94	66	85	54	91	58	84	61	92	63	79	63	98	66	96	74	98	73	92	72	87	76
31...	83	44	71	46	96	70	96	65	85	49	85	52	79	58	94	63	79	56	98	59	95	75	100	73	92	73	90	75
Mns	83.8	45.4	81.3	47.4	94.7	67.8	96.1	67.9	84.9	55.7	88.7	56.0	83.0	58.1	92.2	64.9	81.7	57.8	93.9	63.3	95.4	74.2	97.9	72.7	92.1	76.7	88.1	78.9

Date.	Texas.																											
	Del Rio.		El Paso.		Fort McIntosh.		Fort Stockton.		Fort Worth.		Galveston.		Hallettsville.		Houston.		Lufkin.		Palestine.		Plainview.		San Antonio.		Seymour.		Taylor.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	88	72	88	73	90	75	94	67	93	77	87	80	97	76	99	75	97	72	90	75	88	64	92	76	82	72	97	75
2...	89	72	88	71	99	81	89	66	92	75	88	81	102	76	100	75	95	72	90	73	87	65	96	74	90	72	98	75
3...	98	74	92	71	101	81	94	64	95	76	87	80	98	76	95	78	94	75	95	73	88	66	102	75	93	72	97	76
4...	99	77	88	70	101	92	98	66	99	80	88	81	95	76	96	75	98	73	96	76	92	65	97	75	96	75	97	74
5...	98	78	93	67	100	86	98	71	97	79	88	82	96	77	92	75	95	73	93	76	94	64	96	76	97	74	95	75
6...	87	72	88	68	99	79	90	71	98	79	88	83	97	76	93	77	94	75	94	76	94	68	97	79	96	77	96	77
7...	91	72	94	70	100	82	89	68	99	78	88	82	99	76	95	76	95	75	95	77	89	64	96	77	96	73	97	76
8...	95	75	94	67	103	80	98	67	100	78	88	81	100	76	99	77	95	73	96	74	93	66	98	76	98	73	98	75
9...	99	77	99	73	105	80	103	72	102	80	88	80	98	76	100	74	97	75	96	75	91	65	100	75	100	74	100	76
10...	100	74	100	75	106	80	107	75	102	80	88	81	99	77	101	75	97	75	96	75	99	68	100	76	103	75	99	75
11...	101	77	101	76	106	80	110	73	104	78	87	82	99	77	99	75	97	73	98	75	101	67	100	74	104	79	100	75
12...	99	76	105	82	104	80	108	75	102	79	88	82	100	76	99	74	97	74	97	77	92	70	98	75	104	75	98	75
13...	96	78	101	77	103	84	94	73	101	78	88	82	100	78	101	75	100	72	98	74	96	68	100	76	103	73	99	75
14...	98	79	98	74	104	80	99	69	101	82	87	82	101	77	100	76	100	74	97	76	96	67	98	77	103	74	99	75
15...	100	79	94	68	105	80	99	70	97	81	88	81	103	76	102	75	97	74	99	76	94	64	101	77	100	73	101	76
16...	98	74	92	71	105	80	100	67	92	79	89	79	101	75	103	74	99	73	96	75	94	69	101	74	99	72	100	75
17...	99	76	93	71	104	78	95	68	96	74	85	76	90	73	97	75	97	72	93	70	92	66	100	75	95	69	100	74
18...	98	75	93	69	101	80	97	67	94	75	86	78	99	73	91	73	92	72	92	73	92	62	95	75	97	72	95	74
19...	90	76	90	71	99	78	95	69	95	75	89	80	98	75	99	74	95	72	93	73	92	64	95	73	97	74	95	72
20...	95	70	92	70	101	78	93	68	96	75	91	79	99	74	99	74	95	70	94	72	92	63	96	73	98	72	98	75
21...	105	72	92	71	102	80	98	65	96	72	84	72	89	75	81	73	92	75	89	74	96	66	98	76	98	74	95	75
22...	88	71	92	70	104	84	91	65	93	76	87	81	94	76	86	75	86	75	87	75	91	67	90	70	91	74	88	67
23...	88	70	80	68	101	80	78	66	94	76	88	82	94	77	94	75	98	72	96	75	83	59	93	76	89	69	92	74
24...	93	73	82	66	101	80	82	66	94	73	85	81	94	75	86	74	89	70	85	74	88	66	93	75	96	70	94	74
25...	93	73	92	66	102	80	88	65	96	77	87	81	94	75	94	75	93	74	93	73	87	65	93	75	100	73	94	75
26...	98	74	90	67	104	80	91	68	96	76	88	82	95	75	93	75	93	74	94	75	84	66	96	76	97	75	93	75
27...	97	76	92	72	105	80	97	67	97	78	88	82	92	77	94	74	94	74	93	76	93	69	95	76	101	76	92	77
28...	97	75	94	69	102	80	94	69	96	77	88	82	93	75	95	75	97	72	96	74	92	70	94	74	101	72	94	75
29...	95	75	92	69	102	80	91	65	97	78	88	82	94	75	92	75	95	73	95	74	90	70	95	74	101	75	95	73
30...	95	74	93	71	100	79	92	65	98	79	87	80	93	74	98	73	95	72	96	75	90	63	94	73	102	74	93	73
31...	97	74	96	71	102	78	95	65	102	80	88	77	93	74	96	74	95	74	96	76	92	66	96	73	101	74	95	74
Mns	95.6	74.5	92.8	70.8	102.0	80.5	95.1	68.1	97.2	77.5	87.5	80.5	96.6	75.6	95.8	74.8	95.3	73.2	94.1	74.5	91.7	65.9	96.6	75.0	97.7	73.4	96.3	74.6

Climatological Data for July, 1909.

DISTRICT No. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor.

INTRODUCTION.

The month was marked by the beginning of the seasonal thundershowers, which set in shortly after the 15th. Although slightly later than usual in beginning, they were remarkably persistent, and extended far to the north, giving to the whole mountain region more than the usual precipitation. The hot, dry weather, characteristic of early summer in this region, continued through the first two weeks, broken only by light showers from the 2d to 5th.

TEMPERATURE.

The mean temperature was high to the northward of Arizona, but remarkably deficient in the Gila Valley. The mean of the 143 stations was 74.9°, or 0.2° below the normal. In southwestern Wyoming the excess was about 2°; in eastern Utah, 1.2°; in western Colorado and western New Mexico, 0.3°, while in Arizona there was a deficiency of 1°. The highest mean was 98.2° at Mohawk Summit, Ariz., and the lowest, 50.0° at Corona, Colo. The difference in mean temperature between points of the same elevation in the extreme northern and extreme southern portions of the district was about one-fourth that of the two stations mentioned.

The extremes of temperature were such as are commonly found in July. The highest was 120° at Mohawk Summit; 110° or higher was common in southern Arizona, and 100° was reached at most stations of less than 5,000 feet elevation. Mean maxima of 100° or higher occurred in portions of Arizona, Nevada, and Utah. The freezing point was reached at several points in western Colorado and Wyoming; the lowest reading was 22° at Breckenridge, Colo. Frost occurred in the mountains of northern Arizona on the 28th and 29th.

The 1st and 2d, with the period from the 12th to 16th, included the highest temperatures of the month. From the 16th to 26th the days were comparatively cool, but the nights warmer than normal. Unusually low temperatures prevailed on the 28th and 29th.

PRECIPITATION.

The rainfall was, to an unusual extent, dependent upon the topography. Over the Colorado Plateau and in western Arizona the amounts were insignificant; nearer the mountains the fall was heavier, and on their slopes was considerably above the normal, with monthly totals ranging from 2 to more than 6 inches. The average of the 177 stations reporting was 1.91 inches, an excess of 0.28 inch. As the majority of these stations are in the mountains, or in their immediate vicinity, their mean is higher than the true average for the district. For the Green River Basin the mean of all stations was 1.49 inches; for the Grand, 1.73 inches; the San Juan, 2.97 inches; the Little Colorado, 2.23 inches; and for the Gila and its tributaries, 2.16 inches.

The heaviest rainfall was 6.11 inches, at Chlarsons Mill, in southeastern Arizona; 4 inches or over occurred at several stations in the southern half of the district, while at Blythe, in the California Desert, no rain fell, and in the lower Gila and Colorado valleys the amounts were usually less than half an inch. The daily falls were seldom excessive; the heaviest reported was 2.37 inches at Lordsburg, N. Mex.

In point of time the distribution of the rainfall was very uniform. Light showers were general from the 2d to 5th; from the 5th to the middle of the month the weather was uniformly dry. From the 15th to the 26th showers fell daily over much of the district; the closing days were generally fair.

The Colorado and its northern tributaries fell steadily from the beginning of the month, and at its close had returned to their normal height. The flow of the Arizona streams was greatly augmented by the heavy rains which terminated a drought of unusual severity.

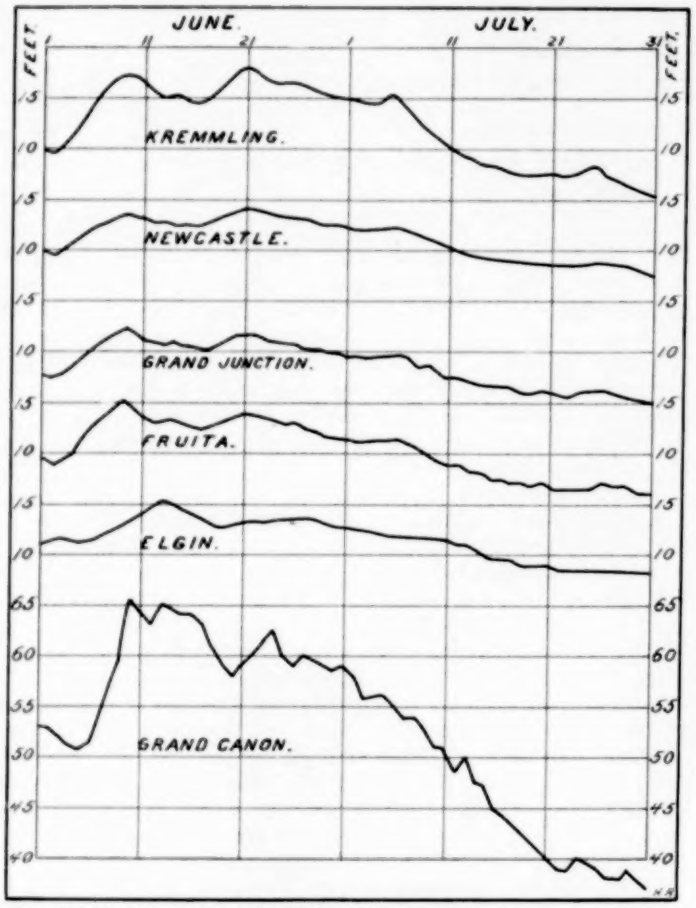

FIG. 1.—Hydrographs of the Colorado and tributaries, June and July, 1909.

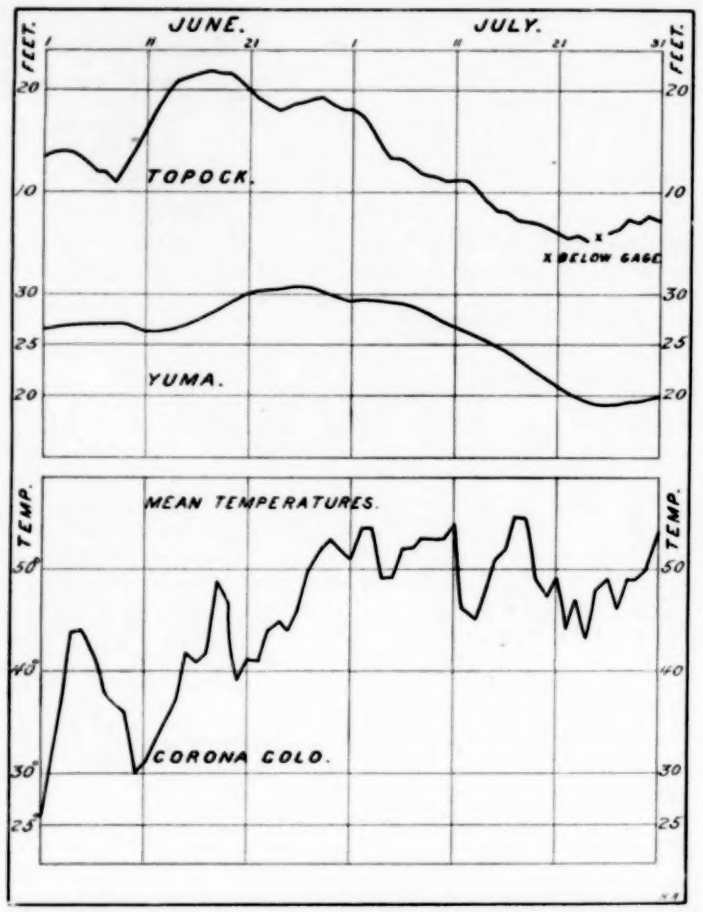

FIG. 2.—Hydrographs of the Colorado and tributaries, June and July, 1909, compared with the mean temperatures at Corona, Colo.

TABLE 1.—*Climatological data for July, 1909. District No. 9, Colorado Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Wyoming.																			
Daniel	Uinta	6,740	10	58.4	+ 2.5	92	18	30	14	52	2.31	+ 1.46	1.36	0.0	2	17	14	0	nw.	J. M. Van Dervort.
Dixon	Carbon			66.4		96	4†	36	12	50	2.05		1.50	0.0	5	20	4	7		Carey O. Morgan.
Eden	Sweetwater	6,577		64.2		95	2	35	12	48	1.71		0.73	0.0	7	19	9	3	w.	Eden Valley L'd & Ir. Co.
Fontenelle	Uinta	6,400	3																	C. W. Holden.
Green River	Sweetwater	6,083	4	68.6		98	16†	38	28	53	0.02		0.02	0.0	1	18	8	5	w.	Geo. H. Maxom.
Kendall[1]	Fremont	7,630		56.2		86	16†	28	12	49				0.0	17	3	1		w.	Art. Doyle.
Pinedale	do	7,167	3																	Forest Service.
Willow Creek Cabin[b]	do	7,500	1	54.8		84	2	30	12†	40	2.46		0.87	0.0	18	9	2		nw.	John L. Allen.
Colorado.																				
Ashcroft	Pitkin	9,483	8	57.2		84	8	33	28	47	2.29	+ 0.60	0.81	0.0	15					Dan McArthur.
Breckenridge	Summit	9,536	19	53.8[a]	+ 0.4	79[a]	2	22[a]	12	51[a]	3.04	+ 0.85	1.00	0.0	15	6	18	6	se.	Mrs. J. G. Thompson.
Cascade	San Juan	8,900	3								4.41		1.25	0.0	10	19	3	9	e.	San Juan P. & W. Co.
Chromo	Archuleta	7,500	3	63.2		90	12†	32	11	54	2.41		1.00	0.0	7	9	21	1	sw.	Lawrence Nolan.
Cochetopa	Saguache	9,088									1.88		0.43	0.0	12	7	23	1	w.	Bessie McDonough.
Collbran	Mesa	6,000	16	69.0	+ 0.3	91	16	45	10	38	0.52	− 0.66	0.18	0.0	5	24	7	0	sw.	A. A. Wood.
Columbine	Routt	8,766																		Jas. H. Carom.
Columbine Ranch	Delta	6,925																		Geo. W. Wade.
Corona	Grand	11,660	2	50.0		64	7†	32	12	28	1.72		0.48	0.0	8				w.	U. S. Weather Bureau.
Crawford (near)	Montrose	6,600		70.0		90	13	51	28	34	1.06		0.43	0.0	8	13	15	3		C. W. Roe.
Crested Butte	Gunnison	8,867									2.71		1.40	0.0	8	13	0	18	w.	Charles L. Ross.
De Beque	Mesa	4,935																		C. M. Paine.
Delta	Delta	4,965	18	75.5	+ 1.4	101	13	47	11	51	1.25	+ 0.41	0.69	0.0	6	24	7	0		E. M. Getts.
Dillon	Summit	8,800									3.87		1.05	0.0	11	15	15	1	n.	Harry T. Hamilton.
Dolores	Dolores	6,500		74.9		92	4†	56	11	34	0.47		0.25	0.0	7	18	7	6	nw.	Geo. R. Simmons, jr.
Dunkley	Routt	7,400	3	68.4[1]		88[1]	4	51[1]	10	30[1]	0.26		0.09	0.0	6	11		11		Geo. W. Dunkley.
Durango	La Plata	6,534	16	68.9	+ 0.2	91	13	46	28	42	2.20	+ 0.65	0.58	0.0	12	10	20	1	nw.	U. S. Weather Bureau.
Eagle	Eagle	6,598	4	63.8		92	3	35	10	50	1.78		0.76	0.0	5	22	8	1	w.	J. M. Witteman.
Eureka	San Juan	10,000	2								2.42		0.36	0.0	11					San Juan P. & W. Co.
Fruita	Mesa	4,510	10	74.2	− 1.0	100	15	45	10	48	1.48	+ 0.76	0.75	0.0	8	19	10	2	sw.	J. B. Willsea.
Gladstone	San Juan	10,400	3								3.84		0.89	0.0	13	2	27	2	ne.	San Juan W. & P. Co.
Glenwood Springs (near)	Garfield	5,823	11																	E. A. O'Neill.
Grand Junction	Mesa	4,608	18	78.3	− 0.9	100	2	57	11	39	0.50	− 0.14	0.23	0.0	4	18	7	6	e.	U. S. Weather Bureau.
Grand Lake	Grand	8,153									0.65		0.65	0.0	1	27	0	3		Mrs. Belle Kauffman.
Grand Valley	Garfield	5,089	17	72.6	− 0.2	99	2†	40	7	50	1.55	+ 0.68	0.66	0.0	10	15	9	7		David Evans.
Gunnison	Gunnison	7,670	16	62.9	+ 2.0	89	9†	35	4†	51	1.53	+ 0.35	0.57	0.0	9	12	13	6	sw.	Clarence Adams.
Hayden	Routt	6,337		64.6		96	5	37	12†	50	3.73		0.89	0.0	9	23	7	1	ne.	C. W. Harkness.
Hesperus	La Plata	8,870	11																	John S. Spear.
Horsefly	Montrose	8,700																		Lawrence J. Finch.
Ignacio	La Plata	6,425									3.10		1.00	0.0	11	11	19	0	s.	Elizabeth Schalles.
Ironton	Ouray	10,000																		P. H. Foley.
Kremmling (near)	Grand	7,337	1	62.6		88	16	38	28	45	1.37		0.36	0.0	9	19	9	3		H. A. Howe.
Lake City	Hinsdale	8,686	4	62.0		82	2†	41	13†	41	2.30		0.55	0.0	9	10	13	8		W. H. Ogle.
Lay	Routt	6,190	15	65.4	− 1.4	94	3†	32	12	56	1.04	+ 0.14	0.29	0.0	7	20	6	5	sw.	A. G. Wallihan.
Lujane	Montrose	6,620	3	72.2		97	17	51	12†	39	0.93		0.50	0.0	5	21	5	5	se.	T. T. Richards.
Mancos	Montezuma	6,960	10	68.3	+ 2.3	91	13	45	28†	43	2.41	+ 1.32	0.76	0.0	7	12	19	0	w.	B. M Krumpanitzky.
Marble	Gunnison	7,951		61.7		87	1†	36	11†	47	1.83		0.44	0.0	9	18	7	6	e.	Homer Harrington.
Marshall Pass	Saguache	10,846	6								2.17		0.43	0.0	10	20	7	4	w.	William D. Lillard.
Mecker	Rio Blanco	6,182	17	64.3	− 1.3	89	16	39	14†	47	0.59	− 0.97	0.21	0.0	6	16	14	2		T. Baker.
Montrose (near)	Montrose	5,811	20	68.2	− 2.0	93	1	43	29	46	1.07	+ 0.29	0.46	0.0	8	12	19	0		R. Butterfield.
Nast	Pitkin	7,953									1.54		0.88	0.0	5	19	10	2	w.	Arthur Hanthorn.
Pagoda	Routt	6,500	18	64.2	+ 0.3	91	3	34	12	53	1.68	+ 0.44	0.54	0.0	7	26	4	1		Shaw Brothers.
Pagosa Springs	Archuleta	7,108	2	64.9		92	12†	32	11	57	2.97		1.17	0.0	10	11	14	6	sw.	E. T. Walker.
Paonia	Delta	5,694	8	74.9		99	3†	49	28	46	.033	− 0.69	0.20	0.0	5	13	18	0	sw.	J. M. Underwood.
Parshall	Grand										1.32		0.85	0.0	4					F. A. Field.
Pitkin	Gunnison	9,500									2.47		0.85	0.0	6	23	8	0		Mrs. Maggie Cammann.
Rangely	Rio Blanco	5,050	10	72.2	+ 3.0	100	16	42	12	53	1.11	+ 0.52	0.60	0.0	6	17	12	2	w.	Mrs. C. P. Hill.
Redcliff	Eagle	8,695	14								3.30	+ 1.44	0.70	0.0	9	17	3	11		Dorothea Greiner.
Rico	Dolores	8,824	8																	Clinton B. Smith.
River Portal	Montrose	6,570	3	70.4[d]		96[d]	15	43[c]	12	49[c]	0.78		0.21	0.0	7	9	10	7		J. Dill.
Sapinero	Gunnison	8,125	9	59.8		83	16	32	8	47	1.56		0.23	0.0	13	16	8	7	w.	W. F. Irving.
Silt	Garfield	5,441	13	71.4	+ 0.8	97	16†	42	11	50	1.70	+ 0.57	0.53	0.0	9	18	13	0	w.	W. S. Park.
Silverton (1)	San Juan	9,285	5	57.9		83	11	32	11†	51	3.96		0.70	0.0	10	15	8	8		V. E. Kerr.
Silverton (2)	do	9,400	3	56.7		79	12	32	11	45	3.27		0.56	0.0	9	16	4	11	ne.	San Juan P. & W. Co.
Spruce Lodge	Grand	9,600	1								2.87		0.44	0.0	12					H. J. Wills.
Steamboat Springs	Routt	6,683						32	13		1.08		0.56	0.0	6	29	2	0		M. Elliot Houston.
Tacoma	La Plata	7,300	3	67.0		90	15	46	28	41	3.89		0.81	0.0	12	9	8	14	sw.	San Juan P. & W. Co.
Terminal Dam	do	8,300	3								4.48		0.98	0.0	14	14	10	7	n.	Do.
Uncompahgre Plateau	Montrose	8,400																		Martin Esser.
Whitepine	Gunnison	9,500	8	52.2		76	8	32	21	41	2.50	+ 0.61	1.00	0.0	4	14	17	0	s	C. E. Macy.
Yampa	Routt	8,000									1.16		0.40	0.0	6	19	5	7	nw	Percy A. Hughes.
Utah.																				
Aneth	San Juan	4,800	9																	
Baker	do	7,560																		Maude A. Palmer.
Basin	Grand	9,500																		E. H. Wolf.
Castle Dale	Emery	5,500	10	74.2	+ 5.4	99	2	46	29	43	T.	− 0.58	T.	0.0	0	23	8	0		James Jeffs.
Dragon	Uinta		1																	H. J. Cooper.
Dyer Mountain	do	10,000																		U. S. Forest Service.
Elkhorn	do	7,000																		Do.
Emery	Emery	6,260	9	69.0	+ 3.8	93	2	41	8	41	0.75	+ 0.34	0.45	0.0	2	6	9	16	sw.	H. C. Wickman.
Escalante	Garfield	5,700	9	69.6	− 0.2	93	13	45	8†	41	1.63	+ 0.71	1.27	0.0	6	11	0	20		Geo. H. Barney.
Experiment Station	Washington	2,880	5	82.0		110	1	51	28†	48						14	8	9		Joseph T. Atkin.
Fort Duchesne	Uinta	5,000	21	73.7	+ 2.8	101	2†	43	28	53	0.65	+ 0.16	0.25	0.0	4	24	1	6	ne.	H. Curtis.
Grayson	San Juan	5,750	5	74.6		98	13	50	28†	41	2.00	+ 0.88	1.40	0.0	5	21	5	5	s.	Joseph A. Lyman.
Green River	Emery	4,080	12																	B. F. Miller.
Hite	Garfield	3,000	10	84.4	0.0	107	1	59	30	43	0.36	− 0.05	0.18	0.0	3	18	13	0	sw.	John P. Hite.
Kanab	Kane	4,925	9																	W. T. Dobson.
La Sal[a]	San Juan	7,000	9	69.0	+ 1.3	90	13	46	28	33	2.70	+ 1.69	1.68	0.0	10	12	14	4		Gertrude W. Carpenter.
Loa[a]	Wayne	7,000	17	66.4	+ 0.6	97	15†	36	28	49	0.90	− 0.02	0.39	0.0	5					Michael Hansen.
Mill Canyon	Washington	8,400									0.40		0.18	0.0	4					J. A. Gardner.
Moab	Grand	4,000	20	79.8	+ 2.4	106	2	50	29	48	0.50	− 0.11	0.15	0.0	7	15	13	3		Henry Crouse.
Monticello	San Juan		1																	D. B. Perkins.
Ranch	Kane	6,700	8	62.4		93	1	34	9†	45	1.46	+ 1.80	0.45	0.0	7	18	12	1	w.	J. W. Seaman.
St. George	Washington	2,880	23																	Jas. G. Bleak.
Scofield	Carbon	7,625	1	68.6		98	3	42	21	52	4.12		1.75	0.0	6	25	1	5		O. E. Jorgensen.
Springdale	Washington		4	82.0		109	1	57	26	42	3.12		1.05	0.0	7	16	2	13	s.	Wm. W. Flanigan.
Strawberry Valley	Wasatch		1	63.0		89	1	36	28	44	1.04		0.41	0.0	5	21	7	3		U. S. Reclamation Service.
Sunnyside	Carbon	5,280	5								1.64	+ 0.63	0.70	0.0	3					Henry Cullum.

TABLE 1.—*Climatological data for July, 1909. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Utah—Cont'd.																			
Teasdale[1]	Wayne	7,000	1	67.4	.....	90	15†	49	27	35	1.19	.....	0.33	0.0	6	8	0	11	.....	Josiah Shurtz.
Theodore	Wasatch	5,507	4	68.2	.....	97	2	38	7	50	1.27	.....	0.75	0.0	8	19	10	2	.....	L. Claire Winslow.
Tropic	Garfield	7,000	12	69.0	+ 1.8	101	1	38	28	51	0.91	+ 0.02	0.36	0.0	5	17	8	6	nw.	E. P. Bolton.
Vernal	Uinta	5,380	14	73.6	+ 1.9	99	2	50	12†	40	0.87	+ 0.13	0.35	0.0	4	26	4	1	sw.	Joab Collier.
Wellington[1]	Carbon	5,540	10	63.8	− 5.0	94	1	40	7	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	Melville Branch.
New Mexico.																				
Blackrock	McKinley	.....	2	71.8	.....	100	13	50	7†	38	0.78	.....	0.29	0.0	9	21	0	10	w.	Wm. J. Oliver.
Bloomfield	San Juan	5,500	13	77.4	+ 3.2	102	13†	46	8	33	1.71	+ 0.97	0.80	0.0	5	11	19	1	se.	Fred Le Clerc.
Cambray	Luna	4,215	11	.....	.....	.....	.....	.....	.....	.....	1.40	+ 0.10	0.75	0.0	4	13	9	9	sw.	Agent, Southern Pac. Ry.
Cliff	Grant	4,470	11	78.7	+ 1.4	107	13	52	15	48	2.13	− 0.45	0.94	0.0	7	.....	.....	.....	.....	T. J. Clark, sr.
Columbus	Luna	4,054	.....	.....	.....	.....	.....	.....	.....	.....	2.15	.....	1.15	0.0	4	11	18	2	sw.	Agent, E. P. & S. W. R. R.
Deming	do.	4,333	33	81.2	.....	110	12	59	24	42	0.40	− 1.55	0.30	0.0	2	9	22	0	w.	Agent, Southern Pac. Ry.
Dulce	Rio Arriba	6,767	3	69.2	.....	94	13†	22	28†	47	2.50	.....	1.00	0.0	3	9	17	5	.....	W. A. Fuller.
Fort Bayard	Grant	6,152	35	74.0	+ 1.2	99	12	52	19	37	2.05	− 0.96	0.65	0.0	10	20	10	1	w.	U. S. A. Gen'l Hospital.
Fort Wingate	McKinley	6,997	46	70.0	− 1.9	92	12†	50	8†	40	2.49	+ 0.14	0.50	0.0	8	17	13	1	sw.	Medical Corps, U. S. A.
Frisco	Socorro	5,800	3	74.4	.....	105	12	51	8	52	2.20	.....	0.68	0.0	5	5	25	1	sw.	John R. Milligan.
Fruitland	San Juan	4,800	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cyril Jas. Collyer.
Gage	Luna	4,486	9	79.6	.....	104	12	69	19†	38	0.90	.....	0.30	0.0	5	3	21	7	se.	Agent, Southern Pac. Ry.
Hachita	Grant	4,504	11	.....	.....	.....	.....	.....	.....	.....	1.91	.....	0.66	0.0	10	6	12	13	w.	Agent E. P. & S. W. R. R.
Hermanes	Luna	4,451	14	.....	.....	.....	.....	.....	.....	.....	0.65	.....	0.17	0.0	5	11	16	4	.....	Do.
Lordsburg	Grant	4,245	10	80.8	− 2.6	105	12	62	5†	37	4.22	+ 2.49	2.37	0.0	7	3	14	14	sw.	Agent Southern Pac. Ry.
Luna (near)	Socorro	7,300	5	66.4	.....	93	13	41	8	48	1.61	.....	0.25	0.0	12	2	29	0	w.	C. B. Martin.
Manuelito	McKinley	6,252	5	68.4	.....	100	15†	35	12†	63	2.77	.....	0.93	0.0	9	10	5	16	sw.	W. A. L. Tarr.
Mimbres	Grant	5,007	3	.....	.....	.....	.....	.....	.....	.....	5.13	.....	1.35	0.0	15	11	19	1	se.	Charles Dennis.
Pratt	do.	4,415	.....	.....	.....	.....	.....	.....	.....	.....	0.56	.....	0.35	0.0	2	16	8	7	e.	Agent, E. P. & S. W. R. R.
Redrock	do.	4,150	5	.....	.....	.....	.....	.....	.....	.....	3.37	.....	1.10	0.0	8	6	16	9	.....	Robt. H. Woods.
Rodeo	do.	4,118	1	.....	.....	.....	.....	.....	.....	.....	3.28	.....	1.05	0.0	11	19	9	3	.....	Agent, E. P. & S. W. R. R.
Rosa	Rio Arriba	6,000	5	.....	.....	.....	.....	.....	.....	.....	2.73	.....	0.60	0.0	11	18	12	1	.....	B. A. Candelario.
Arizona.																				
Allaire's Ranch	Cochise	4,184	13	.....	.....	.....	.....	.....	.....	.....	2.91	− 0.22	1.20	0.0	11	10	13	8	w.	Thos. Allaire.
Arizona Canal Dam	Maricopa	1,372	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Reclamat'n Service.
Aztec	Yuma	492	9	93.4	− 2.6	115	13†	65	28	42	0.11	− 0.03	0.06	0.0	2	18	13	0	w.	Agent, Southern Pac. Ry.
Benson	Cochise	3,523	26	82.2	− 3.2	106	13†	61	28	35	2.16	+ 0.11	0.90	0.0	7	5	11	15	e.	Do.
Bisbee	do.	5,500	19	73.4	− 2.1	94	13	60	7†	27	5.66	+ 2.11	2.08	0.0	12	10	17	4	w.	Rev. J. G. Pritchard.
Bonita	Graham	4,916	30	.....	.....	.....	.....	.....	.....	.....	2.11	− 0.26	0.85	0.0	7	10	10	11	w.	A. Johnson & Co.
Bowie	Cochise	3,756	9	83.4	+ 1.3	112	13	62	28	35	3.21	+ 1.23	1.18	0.0	10	11	3	17	w.	Agent, Southern Pac. Ry.
Buckeye	Maricopa	980	17	88.3	+ 1.1	112	1†	61	28	44	1.76	+ 0.64	1.10	0.0	5	23	8	0	e.	H. E. Kell.
Casa Grande	Pinal	1,396	28	87.7	− 5.5	114	12	60	28	46	1.05	+ 0.30	0.50	0.0	4	12	13	6	sw.	Agent, Southern Pac. Ry.
Casa Grande Ruins	do.	1,422	1	92.0	.....	113	13	62	27	41	1.14	.....	0.38	0.0	6	13	9	9	w.	F. Pinkley.
Cavecreek	Maricopa	1,520	2	86.0	.....	112	1†	58	28	43	1.91	.....	1.26	0.0	7	16	15	0	.....	E. H. Howard.
Chin Lee	Apache	6,000	1	74.9	.....	101	13	50	28	45	2.14	.....	0.66	0.0	10	13	10	8	sw.	Fr. L. Osterman, O. F. M.
Chlarsons Mill	Graham	8,000	4	67.8	.....	84	13	50	27	25	6.11	.....	2.30	0.0	8	12	13	6	.....	H. R. Chlarson.
Clifton	do.	3,584	17	86.8	.....	112	12†	66	20	37	1.77	0.00	1.56	0.0	2	16	13	2	.....	W. B. Cramer.
Cline	Gila	2,300	8	84.4	.....	108	13	60	27	38	0.81	− 0.85	0.25	0.0	5	15	14	2	sw.	W. M. Clanton.
Cochise	Cochise	4,219	11	82.5	+ 0.4	106	13	63	28	34	1.95	− 0.03	0.72	0.0	10	9	20	2	.....	Agent Southern Pac. Ry.
Columbia	Yavapai	1,900	9	88.6	+ 0.9	112	13	60	27	35	4.43	+ 2.39	1.06	0.0	5	15	2	14	se.	M. J. Nolan.
Congress	do.	3,688	13	84.6	− 0.9	104	1†	68	10†	28	1.11	− 0.39	0.50	0.0	8	15	9	7	sw.	Assayer, Congress Mine.
Dos Cabezos	Cochise	5,250	1	79.1	.....	109	13	56	7	46	4.61	.....	1.18	0.0	11	13	5	5	sw.	N. Erickson.
Douglas	do.	3,930	6	80.6	.....	109	14	61	22	46	3.50	+ 0.76	0.85	0.0	15	13	16	2	sw.	Dr. F. T. Wright.
Dudleyville	Pinal	2,204	18	83.1	− 5.7	105	13	62	27	38	1.42	− 0.54	0.41	0.0	13	6	19	6	sw.	G. F. Cook.
Flagstaff (1)	Coconino	6,907	17	64.6	− 0.4	91	12	40	28	45	1.74	− 0.05	0.51	0.0	12	14	10	7	sw.	U. S. Weather Bureau.
Flagstaff (2)	do.	7,452	4	62.6	.....	93	15	39	29	45	2.12	.....	0.71	0.0	12	13	17	1	.....	C. C. Moers.
Flagstaff (3)[1]	do.	7,500	1	63.5	.....	91	12	34	28†	46	2.27	.....	0.73	0.0	11	10	16	5	sw.	U. S. Forest Service.
Florence	Pinal	1,504	1	90.3	.....	114	1	66	25	38	1.28	.....	1.22	0.0	3	20	5	6	se.	Agent, P. & E. R. R.
Fort Apache	Navajo	5,200	30	75.2	+ 1.5	104	13	51	28	45	1.73	− 0.89	0.35	0.0	10	14	17	0	sw.	Post Surgeon.
Fort Huachuca	Cochise	5,100	23	81.9	+ 4.8	105	13	64	24	34	0.99	− 2.65	0.21	0.0	16	15	6	10	s.	Do.
Fort Mohave	Mohave	604	20	91.8	− 1.9	115	12	65	9	41	0.27	+ 0.05	0.25	0.0	2	17	12	2	sw.	A. F. Duclos.
Gilabend	Maricopa	737	18	93.9	− 0.5	116	13†	63	28	42	0.37	− 0.35	0.15	0.0	5	20	10	1	e.	Agent, Southern Pac. Ry.
Globe	Gila	3,525	8	82.6	.....	106	13	62	23	39	2.24	+ 0.16	0.85	0.0	8	9	22	0	nw.	Dr. B. G. Fox.
Grand Canyon (1)	Coconino	6,866	5	65.3	.....	88	14	46	17	38	3.41	.....	0.82	0.0	8	13	7	11	sw.	Agent, Santa Fe R. R.
Grand Canyon (2)	do.	3,676	2	82.8	.....	106	13	62	28	34	2.53	.....	0.70	0.0	7	15	6	10	sw.	C. C. Spaulding.
Greer	Apache	9,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. M. Butler.
Holbrook	Navajo	5,069	18	76.4	+ 0.8	103	13†	51	28	45	3.99	+ 2.45	1.32	0.0	12	15	16	0	sw.	Thorwald Larson.
Intake	Gila	2,230	4	.....	.....	.....	.....	.....	.....	.....	0.98	.....	0.41	0.0	6	15	10	6	ne.	A. H. Neal.
Jerome	Yavapai	4,743	12	78.6	− 1.7	102	13	60	20	27	3.72	+ 1.48	1.17	0.0	9	14	13	4	n.	Dr. L. A. Hawkins.
Keams Canyon	Navajo	.....	4	71.2	.....	94	13	46	27	42	2.91	+ 1.61	1.01	0.0	11	7	24	0	w.	L. R. Ballard.
Kingman	Mohave	3,326	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. R. Gooding.
Maricopa	Pinal	1,186	29	87.6	− 6.6	116	13	65	18†	42	0.74	+ 0.11	0.62	0.0	3	16	11	4	w.	Agent, Southern Pac. Ry.
Mesa	Maricopa	1,244	14	89.2	+ 0.4	114	13	63	27	44	2.01	+ 0.96	1.11	0.0	4	12	16	3	sw.	C. L. Diehl.
Mohawk Summit	Yuma	538	9	98.2	+ 1.0	120	1†	60	23	57	0.07	− 0.09	0.03	0.0	3	17	13	1	.....	Agent, Southern Pac. Ry.
Natural Bridge	Gila	4,990	20	.....	.....	.....	.....	.....	.....	.....	1.52	− 0.79	0.68	0.0	5	13	8	0	sw.	D. G. Goodfellow.
Nogales	Santa Cruz	3,830	5	80.9	.....	106	13†	58	9	41	5.65	+ 2.81	1.43	0.0	14	13	13	5	.....	Wallace & Summerhayes.
Oracle	Pinal	4,500	19	80.2	− 0.2	100	13	62	23†	32	4.68	+ 2.19	1.20	0.0	12	8	19	4	.....	W. H. Winters.
Paradise	Cochise	3,940	2	74.7	.....	99	14	54	1	37	3.48	.....	0.80	0.0	7	0	27	4	sw.	J. C. Hancock.
Parker	Yuma	345	11	91.0	+ 1.4	116	1	61	29	48	0.19	− 0.18	0.16	0.0	2	19	7	5	s.	Dr. H. K. Marshall.
Payson	Gila	5,500	1	72.6	.....	97	13	50	8†	42	2.09	.....	0.50	0.0	6	14	14	3	sw.	M. McDonald.
Phœnix (1)	Maricopa	1,108	14	88.7	− 1.7	110	13	69	29	35	1.00	− 0.07	0.90	0.0	5	15	16	0	e.	U. S. Weather Bureau.
Phœnix (2)	do.	1,092	18	88.2	− 1.0	112	13†	65	7†	42	0.55	− 0.44	0.40	0.0	3	16	13	2	w.	G. Acuff.
Phœnix (3)	do.	1,189	1	91.3	.....	113	13†	70	29	37	2.07	.....	1.65	0.0	2	9	19	3	sw.	J. A. Ream.
Pinal Ranch	Pinal	4,520	15	.....	.....	.....	.....	.....	.....	.....	1.05	− 1.54	0.46	0.0	7	16	10	5	.....	Irion & Craig.
Pinto	Apache	5,660	5	.....	.....	.....	.....	.....	.....	.....	1.67	+ 0.36	0.50	0.0	5	17	12	2	sw.	Mrs. C. F. Henning.
Prescott	Yavapai	5,320	28	71.4	− 1.3	97	13	47	28	37	5.25	+ 2.35	1.69	0.0	12	18	8	5	.....	Dr. J. W. Flinn.
Quartzsite	Yuma	800	2	92.5	.....	115	13†	66	28	39	0.54	.....	0.30	0.0	3	21	10	0	sw.	W. E. Scott.
Redrock	Pinal	1,856	2	91.0	.....	114	13†	70	28	34	1.43	.....	0.59	0.0	8	4	27	0	w.	W. J. Crowell.
Roosevelt	Gila	2,175	4	90.0	.....	112	13	69	26	31	0.62	− 0.48	0.42	0.0	3	15	16	0	.....	Wm. A. Schoenfeld.
Sacaton	Pinal	.....	2	88.1	.....	111	1†	65	27	40	1.59	.....	0.70	0.0	6	15	16	0	.....	E. W. Hudson.
St. Johns	Apache	5,650	4	75.8	.....	102	13	52	27	43	3.21	+ 1.47	1.09	0.0	8	4	5	22	sw.	Alex. Shreeve.
St. Michaels	do.	6,950	13	72.4	+ 4.0	97	13	48	8	6	2.46	+ 0.88	0.67	0.0	11	12	5	14	sw.	Rev. A. Weber, O. F. M.
Salome	Yuma	880	2	86.8	.....	116	14	57	8	47	0.96	.....	0.75	0.0	4	16	4	11	se.	Agent A. & C. R. R.
San Carlos	Gila	2,456	19	85.0	− 1.4	113	13	51	28	50	1.23	− 0.34	0.43	0.0	5	11	20	0	sw.	F. S. Thomas.
San Simon	Cochise	3,699	24	84.5	− 0.2	111	13	62	5	35	2.81	+ 1.94	0.76	0.0	10	10	13	8	sw.	Agent, Southern Pac. Ry.
Seligman	Yavapai	5,219	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Dougherty.
Sentinel	Maricopa	685	11	92.3	− 3.0	115	13†	70	4†	39	0.05	− 0.39	0.03	0.0	2	17	11	3	.....	Agent, Southern Pac. Ry.
Showlow	Navajo	6,300	6	71.0	.....	99	14	46	28	44	2.60	− 0.03	1.02	0.0	6	12	11	8	sw.	Miss Z. Hall.
Silverbell	Pima	2,650	4	86.6	.....	107	13†	65	18	32	1.83	.....	0.94	0.0	5	18	4	9	w.	Imperial Copper Co.
Supai	Coconino	3,200	2	81.6	.....	106	11	60	28	42	2.53	.....	1.25	0.0	8	16	10	5	.....	Chas. E. Coe.
Tempe	Maricopa	1,165	5	87.8	.....	111	13†	65	27†	42	1.06	− 0.19	0.46	0.0	3	19	9	3	se.	F. H. Simmons.

TABLE 2.—*Climatological data for July, 1909. District No. 9*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Arizona—Cont'd.																				
Thatcher	Graham	2,800																		
Tombstone	Cochise	4,550	14	78.5	+ 0.1	103	13	56	22	36	3.03	− 0.10	0.80	0.0	13	6	22	3	.....	F. N. Walcott.
Tuba	Coconino	4,500	9	76.4	− 1.7	103	13	52	28	43	0.54	+ 0.02	0.14	0.0	9	12	11	8	ne.	G. H. Kraus.
Tucson (1)	Pima	2,390	29	85.0	− 2.0	108	14	64	18	36	4.04	+ 1.99	1.05	0.0	10	3	28	0	nw.	University of Arizona.
Tucson (2)	....do	2,380	1	84.8	.....	110	14	62	10†	43	3.34	.....	2.06	0.0	5	13	18	0	sw.	H. G. Brown.
Upper San Pedro	Cochise	5,000																	.....	B. T. Stuart.
Vail	Pima	3,421	11	82.6	− 3.3	106	14	62	18†	39	2.07	+ 1.43	0.60	0.0	7	14	15	2	.....	Agent, Southern Pac. Ry.
Walnut Grove	Yavapai	3,649	19								3.60	+ 1.97	2.20	0.0	8	14	16	1	.....	J. O. Carter.
Wickenburg	Maricopa	2,072	2	88.2	.....	110	6	65	21†	38	0.76	.....	0.46	0.0	6	14	17	0	sw.	Agent, P. & P. R. R.
Willcox	Cochise	4,164	29	79.9	− 2.4	105	12	60	28	40	3.26	+ 1.33	1.55	0.0	7	6	17	8	sw.	Agent, Southern Pac. Ry.
Williams	Coconino	6,750	10	69.2	+ 0.8	102	1	41	29	52	1.68	− 0.98	1.28	0.0	8	14	2	15	ne.	H. Victor.
Winslow	Navajo	4,853	1	76.8	.....	107	13	49	10	50	1.75	+ 1.13	1.50	0.0	6	19	3	9	.....	L. C. Henning.
Yarnell	Yavapai	4,700	11								2.02	− 0.45	1.10	0.0	5	12	6	13	s.	E. L. Bartholomew.
Yuma (1)	Yuma	141	30	90.2	− 0.7	112	14	64	8	41	0.01	− 0.11	0.01	0.0	1	29	2	0	sw.	U. S. Weather Bureau.
Yuma (2)	....do	150	2	85.5	.....	109	1†	55	27	49	0.02	.....	0.02	0.0	1	16	15	0	sw.	E. L. Crane.
Nevada.																				
Caliente	Lincoln																		.....	
Las Vegas	Clark	2,033	2	85.4	.....	115	1	52	7†	51	0.18	.....	0.18	0.0	1	19	12	0	n.	
Logan	....do	1,700	3	85.6	.....	116	1	51	28†	50	0.26	.....	0.18	0.0	4	19	9	3	s.	

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‡‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 9, Colorado Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Daniel	Green				T.	.95	T.													T.	T.		T.				T.	1.36					2.31
Dixon	do				1.50								T.							.08	.14	.06					.27				T.	2.05
Eden	do			T.		.73	.01												T.	.02				.22	.10		.26	.37					1.71
Fontenelle	do																																
Green River	do				T.	T.	T.								T.				T.	T.	T.						.02					0.02
Kendall	do									.20											.09			.28			.35	1.16	.10				
Pinedale	do																																
Willow Creek Cabin	do			**	**	**	1.25					T.							T.	T.	.03			.03			.28	.87					2.46
Colorado.																																	
Ashcroft	Grand		.14	.19	.81	T.								T.	.14	.04		.02	.06	.09	.03	.05	.10	.34	.05	T.	.20	.03					2.29
Breckenridge	do		.12	1.00	.39		T.		.04					.05		.03		.05	.04	.41	.15	.14	.15	.18	.25						.04		3.04
Cascade	San Juan	T.	.32	T.	.31	.54										T.	T.			T.	.47	.08	.05	.95	.36		1.25	.08					4.41
Chromo	do	T.	T.	T.	.06	T.	.27							T.		T.	T.	.06	T.				.27	1.00	.60		.15					T.	2.41
Cochetopa	Gunnison			.15	.43	.24	.01										T.	.01		T.	.06	.30	.37	.20			.07	.03		.01		1.88
Coilbran	Grand					.02									T.					.06	.17			T.	.18		.09					0.52
Columbine	Yampa																																
Columbine Ranch	Gunnison																																
Corona	Grand					.48														.06	.06	.36		.12	.40	.08		.16					1.72
Crawford	Gunnison			.07	.03										.03			T.		T.	.16	.43	T.	.09			.15	.10					1.06
Crested Butte	do			1.40	.46																	.05	.25	.10	.20	.26	.05					2.71
De Beque	Grand																																
Delta	Gunnison																		.03	.12	.02		T.	.69	.01	.38							1.25
Dillon	Grand			T.	.50	.10	T.							T.	T.	.10	T.	.40	.20	1.05	T.	1.04		.08	T.	.20	.10	.10					3.87
Dolores	Dolores																	.02		.01	.11	.25	.03	.04			.01						0.47
Dunkley	Yampa				.03	.01												.02	.09				.05		.06								0.26
Durango	San Juan		T.	.02	.34	.31	.04											T.	.01		.12	.04	.48	.13	.02	.12	.57						2.20
Eagle	Grand				.16										T.	T.			.17	.75				.20	.50		T.						1.78
Eureka	San Juan			.09	.23	.31														.23	.20	.36	.19	.34	.12	.21	.14						2.42
Fruita	Grand			T.	.12	.06								T.	.04			T.	T.	.17	.14		T.	.15	.05		.75						1.48
Gladstone	San Juan	.02		.34	.60	.13	.01									.01		.02				.89	.08	.86	.23		.50	.15					3.84
Glenwood Springs	Grand																																
Grand Junction	do			T.	.09	T.	T.							T.	T.	T.		T.	T.	.04	T.		T.	.14	T.	T.	.23						0.50
Grand Lake	do			T.	T.	T.							T.	T.	T.		.65											T.	T.	T.			0.65
Grand Valley	do			.05	.66	.16													.02	.05	.06		.03	.13	.24		.15						1.55
Gunnison	Gunnison				.04										T.	.11			.17	.06	.32	.57	.12	.07	.17								1.53
Hayden	Yampa							.87										.04	.78	.49	.89	.02	T.		.39	.10	.15						3.73
Hesperus	San Juan																				.11	.24	.48	.44	T.		.88	.21					
Horsefly	Gunnison																																
Ignacio	San Juan		.03	.05	.28	.46													T.	.15	.26	.12	.46	1.00	.24		.02						3.10
Ironton	Gunnison																																
Kremmling	Grand				.01	.21	.30							T.	T.	.01			.14	.15	.03			.16	.36			T.					1.37
Lake City	Gunnison		T.		.15	.21											T.	T.	T.	.09		.18	.55	.51	.50	.01	T.			.10			2.30
Lay	Yampa			T.	.04	.19									T.			T.	.11	.14		T.		.01	T.	.29	.26						1.04
Lujane	Gunnison			T.	.03										T.				T.	T.	T.	.50	.10	.10	T.		.20						0.93
Mancos	San Juan			T.	.12	.76																.42	.10	.24	.45		.32						2.41
Marble	Grand			.20	.38	.11								.05							.12		.02	.62		.08	.25						1.83
Marshall Pass	Gunnison		.13	.10		.14													.40		.14	.43	.35	.04	.18			.26					2.17
Meeker	White															T.		.10	.01		.10	.12	.05	T.		.21						0.59
Montrose	Gunnison			T.	.35	.02												T.	T.	T.	.46	.02	.01	.15	.01		.05						1.07
Nast	Grand				.88														.08		.03			.52	.03								1.54
Pagoda	Yampa				T.	.45								.16	.42	.02		.02		.54		.07											1.68
Pagosa Springs	San Juan		T.	.10	T.	.13										T.	.03				.15	.01	.47	.62	1.17		.27	.62					2.97
Paonia	Gunnison				T.															.02	T.	T.	T.	.04	.02	.20	.05						0.33
Parshall	Grand				.85														.16		.06					.25							1.32
Pitkin	Gunnison		.37	.85	.25										T.							.60	.20	T.			.20						2.47
Rangely	White														T.					.04	.30		.02	.11			.60	.04					1.11
Redcliffe	Grand					.60	.30		.20							.50	.20				.40	.70							.10	.30			3.30
Rico	Dolores																																
River Portal	Gunnison																.04			.03		.15	.13	.02		.21	.20						0.78
Sapinero	do			.23	.22	.02	T.								.03	T.			.16	.02	.16	.18	.15	.16	.15		.04	.04					1.56
Silt	Grand			T.	T.	.22								T.	.05				.53	.23	.21		.11	.08	.02		.25						1.70
Silverton (1)	San Juan			.45	.55	.23												.14			.12	.47	.50	.70	.39		.41						3.96
Silverton (2)	Grand			.45	.56	.23												T.			.02	.45	.53	.54	.48	.01							3.27
Spruce Lodge	do			.33	.35	.16				.02									.11	.41	.08		.16	.43	.22		.44			.16			2.87
Steamboat Springs	Yampa																		.10	.13	.20		.01	.08	.56								1.08
Tacoma	San Juan	T.	T.	.05	.30	.45	.03									.35	.07					.05	.81	.68	.58		.25	.27					3.89
Terminal Dam	do	T.	.09	.08	.09	.50	.04									.05	.13	T.		T.	.24	.98	.16	.72	.45		.85	.10					4.48
Uncompahgre Plateau	Gunnison																																
Whitepine	do		T.	1.00											.50					T.	T.	.50	T.			.50						2.50
Yampa	Yampa				.10														.11	.13	.10			.40	.32								1.16
Utah.																																	
Aneth	Colorado																																
Baker	do																																
Basin	Grand																																
Castle Dale	Green																		T.	T.			T.										T.
Dragon	do																																
Dyer Mountain	do																																
Elkhorn	do																																
Emery	Colorado				T.														T.	T.		.30	.45	T.			T.						0.75
Escalante	do			.04	.08															1.27				.06	.10		.08						1.63
Fort Duchesne	Green			T.		.25		T.											.10	T.	.10			T.	T.		.20						0.65
Grayson	San Juan					.25															.20			**	1.40	.15							2.00
Green River	Green																																
Hite	Colorado					T.													T.	.02	T.		T.	.18	T.		.16						0.36
Kanab	do																																
La Sal	Grand		.03		.05	.51														.15		.02	.06	1.68	.06		.11	.03					2.70
Los	Colorado																				.10	.10	.20	.20			.30						0.90
Mill Canyon	do			.02																		.02		.18	.18								0.40
Moab	Grand			T.	.04													.01	.03	.06			.07	.15			.14						0.50
Monticello	do																																
Ranch	Colorado																		.15	.12		.24	.20	T.	.45	.20	.10						1.46
St. George	do																																
Scofield	Green			1.75		.09										.62						.52				.83	.31						4.12
Springdale	Colorado				T.		T.								.95				.20	.13		.33	.27			1.05	.19						3.12
Strawberry Valley	Green			T.		.02													.11	.39					.41		.11						1.04
Sunnyside	Green																		T.	.34			T.	.60			.70						1.64
Tensdale	Colorado																		.33	.11		.09	.02	.23			.11						1.19
Theodore	Green			.01	T.										T.			T.	.05	.75			.02	.20	.07		.12	.05					1.27
Tropic	Colorado		T.	T.	T.													T.	T.	.09	T.	.28	.36	.05	.13	T.							0.91
Vernal	Green																			.20					.17		.35	.15					0.87
Wellington	do																																
New Mexico.																																	
Blackrock	Little Colorado															.15					.02	.03	.04	.05	.07	.20	.02				.20	0.78
Bloomfield	San Juan	T.	T.	T.	T.	T.										T.		T.	T.	T.	T.	.06	.80	.10	T.	.44	.31	T.			T.	1.71

TABLE 2.—*Daily precipitation for July, 1909. District No. 9*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
New Mexico—Cont'd.																																	
Cambray	Mimbres			.05										.75		.10					.50											1.40
Cliff	Gila			.94	.34	.17									.27		T.						.17	T.	.19						.05	2.13
Columbus	do			T.	T.	1.15										T.		T.	.75		.05			T.						T.	.20	2.15
Deming	do					T.								T.				.30	T.											.10		0.40
Dulce	San Juan			T.	1.00				.50	1.00					T.																	2.50
Fort Bayard	Mimbres		T.			.65								.30	.15	T.	.30		.13	.10	.10		.08		.04					.20	T.	T.	2.05
Fort Wingate	Little Colorado	T.	T.		.10	.50									.40			T.			.40	.10	T.	.40	.10	.40							2.40
Frisco	Gila			.33		.42												T.	T.			T.		.35		.68	.42				T.	2.20
Fruitland	San Juan																																
Gage	Gila				.30											.10	.10			.30											.10	0.90
Hachita	do					.15												.15	.15	.03	.52	.66	.06			.09					.05	.05	1.91
Hermanes	do	T.			T.		T.										.12		.17	.15	.11							.10		T.	T.		0.65
Lordsburg	do			.50	1.12	1.25													.52	.38		.10			.35								4.22
Luna	do			T.		T.	.14				.25				.05	.08	T.	.15		T.	.03	T.	.17	.15	.19	.25				.03	.12	1.61
Manuelito	Little Colorado		.03	.90											.25			.25		.33	.20	.10		.70						.01		2.77
Mimbres	Gila		1.31		.10	1.35	.42							.25	.35		.05	.27	.03	.07	.07		.19		.39				.15	.13		5.13
Pratt	do					.55	.01								T.				T.	T.	T.	T.		T.	T.				T.			0.56
Redrock	do		.90	1.10		.25													.02	.35			.52		.05						.18	3.37
Rodeo	do					.20	.17							T.	.07			.24	.04	.13	.06	.56	.73		1.05						.03	3.28
Rosa	San Juan				.40													.60	.30	.45	.10	.20	.40	.12	.03	.08	.05					2.73
Arizona.																																	
Allaires Ranch	Sonora			.03		.40									T.			.12	.24	.31	.04	.08	.32	.04		1.20					.13	2.91
Arizona Canal Dam	Salt																																
Aztec	Gila	.05	T.																			.06	T.		T.							0.11
Benson	San Pedro		T.	.23										T.	.06	T.	T.	.04	.28			.40	.25							T.	.90	2.16
Bisbee	do	T.		.13		.58	T.						T.	.14		T.	.28	.01	2.08		.01	.60	.03	.15					T.	.85	.80	5.66
Bonita	Gila			T.										T.		.30	.25	.85		.03		T.	.04		.62					.02		2.11
Bowie	do			.21		.40										.10		.30	1.18	.15	.10	.50				.22	.05					3.21
Buckeye	do	.10	1.10	.03														.25	T.		T.	T.	T.	.28								1.76
Casa Grande	do			T.														.38	.50	.02					.15							1.05
Casa Grande Ruins	do	T.	.38																.15	.06	.04		.23		.28							1.14
Cavecreek	Verde	.11																1.26	.32				.12	.02	.04		.04					1.91
Chin Lee	San Juan	.09			.04	.66												T.	.03	.28	.22		.19	.04		.48	.11					2.14
Chlarsons Mills	Gila	.17	.02	.07	2.30														.65	1.55					.05	1.30						6.11
Clifton	do	T.				T.											T.	T.	T.	T.	1.56		.21	T.								1.77
Cline	Salt	T.																.25	.25	.12				.09	.10							0.81
Cochise	Desert			.10		.26									.02			.25	.72	.11	.08	.35				.02	.04					1.95
Columbia	Agua Fria	T.															1.02	1.06	0.65		T.		1.00	T.		T.	.70			T.		4.43
Congress	Hassayampa		.32	T.	.05														T.	.02	.10	.02		.04	.06	.50							1.11
Dos Cabezos	Desert			.73	1.18	.18									.28	.12		.26	.31	.39		.12		.56							.48	4.61
Douglas	Sonora		T.		.85	.38	.28			T.	T.			T.	.07	.08	.07	.09	.02	.18		.36	.03	.15	.53	.02			T.		.39	3.50
Dudleyville	Gila	T.	.01	.15	.04									T.	T.	.03	.25	.01	.15	T.	.02	.18	.12	.29	.15	.02							1.42
Flagstaff (1)	Little Colorado	T.	.01	.12	T.											T.	.12	.01	.51	.09	.09	.13	.06	.21	.28	.11							1.74
Flagstaff (2)	do	T.	.08	.15	.01											.12	.02	T.	.04	.26	.11	.71	.10	.22	.30	T.							2.12
Flagstaff (3)	do		.08		T.											.22	.04		.21	.09	.29	.73	.03	.17	.21	.20							2.27
Florence	Gila	T.	T.														1.22					.04		.02								1.28
Fort Apache	Salt														.27		.01	.06	.35	.25	.35	.08	.03	.08	.25	T.				T.		1.73
Fort Huachuca	San Pedro	.02		.03	.07	.06	.21	.20								.05		.05	.01	.06		.06	.07	.01	.01	.06					.02	0.99
Fort Mohave	Colorado																					.02			.25							0.27
Gilabend	Gila			.05														.05		.03		T.		.09		.15						0.37
Globe	Salt		.12		.05											.85		.27	.67			.10		.11		.07						2.24
Grand Canyon (1)	Colorado			T.	.22				T.									.78		.28		.70	.37	.10	T.	.14	.82					3.41
Grand Canyon (2)	do		T.	T.	.31						T.							.61		.14	.03		.64			.70	.10					2.53
Greer	Little Colorado																																
Holbrook	do	.03	T.	1.32							T.			.03		.02	.03	.47	.81			.24	.14	.62	.02	.26			T.			3.99
Intake	Salt	.03																.41	.21			.25		.06	.02							0.98
Jerome	Verde				.34											.36	.37		.12	1.07		.08		.17	.04	1.17						3.72
Keams Canyon	Little Colorado	T.	T.	1.01	.05										T.	T.	.02	.03	.04	.75	.04	.10	.25	.48	.14							2.91
Kingman	Colorado																																
Maricopa	Gila		T.															.62				.02	T.		.10							0.74
Mesa	Salt	T.	T.		T.												T.	T.	1.11		T.	.25	.50	T.	.15	T.			T.			2.05
Mohawk Summit	Gila	.03																			.02			.02								0.07
Natural Bridge	Verde				.05											.10		.05							.68	.64						1.52
Nogales	Altar		.08	.45	.19	.94								.10		.18	.46	.74		.51	.37	1.43	.05	.03							.12	5.65
Oracle	Santa Clara	.28	.35	.53	.68											.07	.35	.02	.14	.01	1.20	.90	T.	.15									4.68
Paradise	Desert				T.	.70	.80							T.		T.	T.		.20		.35	.30		.38							.75	3.48
Parker	Colorado		T.																					.16	.03							0.19
Payson	Verde	.27			.40											T.		.15	.36	.50		T.				.41						2.09
Phoenix (1)	Salt	T.	T.															.53	.37	.03		.01	T.	T.	.06	T.						1.00
Phoenix (2)	do	T.	T.	T.	T.														.40	.10		.05	T.	T.	T.	T.			T.			0.55
Phoenix (3)	do		T.															1.65	.42						T.							2.07
Pinal Ranch	do	.06														T.	.46	.03		T.	.23	.10		.02	.15							1.05
Pinto	Little Colorado	.02											T.	T.				T.	T.	.25		.45	.45		.50		T.	T.				1.67
Prescott	Hassayampa	.32	.18		.27											1.40	.02		.13	.41	.40	.02	.11	.30	1.69							5.25
Quartzsite	Colorado																	.30					.11	.13								0.54
Redrock	Santa Cruz	T.	.01		.35										T.	T.	.09	T.	.07		.04	.21	.59	.07								1.43
Roosevelt	Salt	T.	T.	T.												T.	.05	.15		T.	T.	T.	T.	.42					T.			0.60
Sacaton	Gila			.03													.41	.70	.05			.28		.12								1.59
St. Johns	Little Colorado			.41	.07													.22	1.00	.23		.55	.43	.30								3.21
St. Michaels	do	.05		T.	.01									T.	.17	T.	T.	.45	.02	.13	.04	T.	.67	.20	.13	.59			T.			2.46
Salome	Colorado	T.	T.	T.													.05	T.	.75		T.	T.	.05		.11							0.96
San Carlos	Gila			.30											T.		.30	.43						.12		.08						1.23
San Simon	do				.30	.25									.08		.22	.76	.12	.09	.48				.25	.26						2.81
Seligman	Verde																																
Sentinel	Gila	.02	T.																		.03	T.										0.05
Showlow	Little Colorado		.02	.09														.25			1.02	.50		.12								2.60
Silverbell	Santa Cruz	.14		.06												T.		.65	.04	T.	T.	T.	T.			.94						1.83
Supai	Colorado		.03		.10												.50	T.	1.25	.05	.35	.20	T.	T.	.05							2.53
Tempe	Salt		.08															.11	.46		.40				.01							1.06
Thatcher	Gila																																
Tombstone	San Pedro			.05	.05										.10	.47	.30	.52	.80		.05	.10	.41	.08					.02		.08	3.03
Tuba	Little Colorado		T.		.02	T.											.04	.01	.11	.04	.08		.04		.03	.14						0.54
Tucson (1)	Santa Cruz	.01			.45										T.	.02	.94	.11	1.05			.05	.82	.58	.01							4.04
Tucson (2)	do	.12			.48														2.06	T.		.16	.52	T.								3.34
Upper San Pedro	San Pedro																																
Vail	Santa Cruz	T.			.07										.27	T.	.60	.05	.22			.60	.26									2.07
Walnut Grove	Hassayampa	T.	T.		.18												.30	.06		.34	.46	.04		2.20						.02	3.60
Wickenburg	do	T.															.46	.25	.02			.01	T.	T.	.01	.01						0.76
Willcox	Desert				T.	.74	.03						T.					.39	.15	1.55	.10			.30									3.26
Williams	Colorado	.21	.12															.02	.01	1.28	.01	.01	.02									1.68
Winslow	Little Colorado	T.		.06											T.		T.	.07	.04	T.		1.50		.06		.02						1.75
Yarnell	Hassayampa		.20		.42												T.			T.	.20		.10		1.10							2.02
Yuma (1)	Colorado		T.														T.							.01								0.01
Yuma (2)	do																T.							.02								0.02

TABLE 2—*Daily precipitation for July, 1909. District No. 9*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nevada.																																	
Caliente	Colorado														T.											.18							0.18
Las Vegas	do		.18	.04	.01														.03					T.								0.26
Logan	do																																

TABLE 3.—*Maximum and minimum temperatures at selected stations, for July, 1909. District No. 9, Colorado Valley.*

Date.	Wyoming.				Colorado.										Utah.										New Mexico.			
	Daniel.		Green River.		Durango.		Grand Junction.		Gunnison.		Meeker.		Steamboat Springs.		Emery.		Fort Duchesne.		Hite.		Moab.		St. George (Experiment station).		Fort Bayard.		Fort Wingate.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	87	45	94	60	87	57	98	67	88	40	85	44	.....	42	92	55	98	50	107	68	103	58	110	88	86	60	86	56
2	90	47	97	50	86	54	100	68	84	42	78	47	.....	43	93	55	101	84	106	71	106	62	109	68	86	57	87	54
3	85	45	96	60	85	55	98	75	79	36	86	48	.....	49	91	61	99	55	104	74	102	72	100	71	85	55	82	56
4	80	44	86	60	79	57	89	65	80	35	75	48	.....	49	85	57	92	56	96	73	98	72	98	75	86	57	82	54
5	78	50	87	52	82	59	89	62	83	37	84	54	.....	51	86	54	88	63	101	69	96	64	97	66	83	57	85	51
6	70	41	87	52	85	54	95	67	86	38	85	48	.....	37	85	47	99	50	100	66	97	65	96	59	80	60	89	56
7	71	43	79	47	85	46	92	62	85	40	83	41	.....	37	87	43	92	44	99	75	97	57	99	62	87	60	85	56
8	87	41	92	40	89	49	97	62	86	38	86	44	.....	33	82	41	95	56	101	69	99	55	99	58	95	65	90	50
9	72	37	86	46	87	50	94	59	89	40	84	42	.....	32	85	51	97	54	98	69	98	56	99	64	90	60	88	61
10	76	36	86	46	86	46	93	60	82	35	83	48	.....	37	85	58	100	48	100	62	97	54	103	59	92	65	86	61
11	72	40	84	41	88	46	96	57	83	48	87	40	.....	36	87	54	92	48	103	70	101	54	103	63	92	60	89	55
12	75	31	78	40	91	51	91	59	86	35	79	41	.....	33	86	50	92	51	103	73	99	57	107	63	99	62	92	56
13	74	32	79	40	91	51	99	63	89	40	86	44	.....	32	82	54	99	47	106	69	105	60	107	64	93	64	92	58
14	80	30	85	43	91	57	97	71	88	48	81	39	.....	41	85	56	96	60	103	71	103	70	107	71	92	63	91	59
15	81	33	88	45	91	58	98	70	84	51	88	47	.....	36	82	55	101	53	106	66	102	60	105	66	88	60	90	50
16	87	35	98	53	88	52	99	68	85	45	89	44	.....	38	85	59	100	49	106	74	103	60	102	70	89	65	88	52
17	85	35	98	53	89	54	98	72	85	48	88	52	.....	39	92	51	99	50	104	72	103	62	101	69	89	65	90	56
18	92	45	89	67	89	54	92	71	86	49	85	51	.....	46	91	55	98	64	101	74	98	65	86	73	90	55	90	56
19	71	50	86	58	84	59	87	66	84	48	86	50	.....	49	86	50	85	62	96	72	98	65	84	65	88	52	85	56
20	74	43	90	51	82	57	85	65	83	47	75	52	.....	47	82	55	89	57	91	71	98	64	100	68	85	60	88	57
21	73	41	80	40	85	57	92	66	79	45	81	39	.....	44	81	50	95	52	96	76	94	62	99	68	85	55	80	55
22	72	35	94	50	80	57	86	69	72	52	79	46	.....	42	80	52	90	53	97	71	95	68	99	71	87	60	83	55
23	63	42	82	63	75	57	81	64	74	52	75	54	.....	51	86	53	87	51	93	67	95	65	91	70	83	57	73	55
24	69	49	90	54	76	54	87	63	75	54	81	56	.....	54	87	59	89	55	95	74	94	62	93	71	87	55	77	57
25	70	55	93	48	82	54	93	61	79	49	83	46	.....	41	85	52	95	55	100	72	97	60	94	63	83	53	75	55
26	60	38	84	55	73	57	78	62	80	43	86	41	.....	41	86	57	82	53	90	63	97	67	92	60	81	60	77	55
27	61	37	82	55	79	50	88	64	75	48	80	42	.....	46	85	52	82	51	93	63	90	61	92	52	83	65	78	56
28	71	41	83	38	81	46	87	58	79	46	80	42	.....	37	85	48	96	43	95	60	95	52	96	51	85	70	81	51
29	73	45	81	41	86	48	92	59	82	38	85	41	.....	36	85	47	91	45	100	63	98	50	99	51	87	65	80	50
30	82	35	93	43	87	51	93	62	82	40	87	40	.....	37	82	45	95	46	102	59	101	59	101	55	89	70	87	57
31	81	35	95	42	88	52	97	58	79	42	86	41	.....	37	85	43	97	45	102	61	101	52	99	69	85	60	82	54
Mns	76.2	40.5	87.8	49.5	84.7	53.1	92.3	64.4	82.3	43.5	83.1	45.5	.....	41.1	85.7	52.2	93.9	53.5	100.0	68.9	98.7	61.0	98.9	65.2	87.5	60.4	84.8	55.2

Date.	Arizona.																								Logan, Nev.	
	Bisbee.		Flagstaff.		Fort Apache.		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		San Carlos.		Tucson.		Yuma.					
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	88	68	87	51	95	59	79	50	116	78	108	84	92	59	90	57	105	74	105	76	111	82	116	74		
2	86	67	81	56	96	61	79	52	114	84	107	78	90	63	91	56	105	70	103	74	109	83	113	87		
3	82	66	82	49	93	60	78	50	106	81	96	78	84	60	91	61	102	70	98	74	101	82	102	73		
4	78	63	77	53	90	57	80	51	105	80	99	76	87	60	89	59	99	71	93	69	107	78	105	73		
5	77	63	79	49	92	60	80	51	105	70	101	78	83	59	91	59	101	72	97	74	104	74	103	65		
6	78	63	78	49	91	56	82	50	100	70	102	74	82	52	88	58	101	69	98	74	100	77	100	59		
7	81	60	80	45	92	57	82	52	100	70	102	74	85	51	89	56	103	81	98	75	104	68	103	56		
8	84	66	81	41	96	56	80	51	101	72	101	74	81	54	94	48	105	61	100	72	105	64	103	61		
9	82	66	81	42	94	54	81	52	105	69	101	72	86	50	91	57	103	64	100	74	105	68	104	58		
10	86	64	82	50	96	57	82	50	107	70	102	75	87	50	90	59	104	65	100	73	105	68	104	61		
11	87	68	86	47	97	56	82	48	110	69	105	77	90	58	91	56	107	67	103	74	106	70	109	59		
12	90	67	91	46	103	58	87	49	112	70	108	77	95	60	96	57	110	70	104	70	110	69	110	65		
13	94	67	90	48	104	59	87	53	115	71	110	76	97	60	97	53	113	67	107	71	111	70	114	67		
14	91	66	87	49	100	62	88	52	114	75	109	81	94	61	95	69	111	73	108	73	112	74	111	63		
15	89	69	87	55	100	61	86	51	111	76	107	81	92	61	93	65	109	73	105	80	107	78	110	69		
16	79	62	85	57	90	60	78	50	112	76	106	81	92	65	92	56	102	75	102	73	106	80	108	68		
17	84	62	83	56	95	59	78	46	107	78	104	70	87	59	95	55	99	67	100	65	104	79	105	68		
18	86	61	76	57	89	58	79	48	105	79	96	70	91	61	93	56	106	75	96	64	107	79	101	77		
19	79	60	72	55	91	58	78	52	106	81	93	72	81	62	85	56	97	66	95	67	107	74	104	77		
20	81	60	75	53	92	63	78	52	111	76	101	76	82	57	79	56	98	65	97	71	106	76	106	69		
21	83	62	77	48	88	64	75	49	113	75	105	78	81	59	82	59	103	74	98	75	109	76	108	67		
22	82	62	72	48	86	57	75	50	106	76	95	78	82	57	83	57	93	72	94	70	101	80	106	78		
23	82	62	72	49	84	56	75	50	107	78	100	75	82	56	82	58	98	63	93	65	106	77	101	72		
24	81	62	77	54	87	61	78	52	110	78	99	76	83	59	77	59	100	61	92	66	106	80	106	76		
25	77	64	72	54	83	57	76	53	106	81	97	76	78	59	75	55	98	65	91	71	104	81	95	71		
26	79	64	68	51	81	61	76	53	104	78	98	72	77	57	72	56	98	61	94	71	105	76	97	65		
27	80	60	72	46	84	54	80	53	103	65	101	71	77	51	79	57	99	55	94	68	101	65	96	54		
28	83	62	74	40	88	51	80	52	103	62	101	73	86	47	81	56	101	51	96	65	103	66	100	51		
29	83	64	81	41	99	55	78	50	109	61	104	69	85	48	89	51	107	57	100	68	107	67	102	57		
30	85	63	81	48	91	61	78	51	111	66	98	75	86	53	88	58	105	68	98	76	108	72	100	51		
31	82	61	80	51	90	60	80	52	111	78	103	73	84	58	90	53	104	65	99	72	107	79	106	63		
Means	83.2	63.7	79.5	49.6	92.2	58.3	79.8	50.8	107.9	74.0	101.9	75.5	85.8	57.0	87.7	57.0	10.28	67.3	98.6	71.3	105.9	74.6	104.8	66.3		

Climatological Data for July, 1909.

DISTRICT No. 10, GREAT BASIN.

ALFRED H. THIESSEN, District Editor.

SUMMARY

The usual and indeed characteristic feature of midsummer weather in southern California, Nevada, and western Utah is a prolonged rainless spell. Practically no rain, that can be directly connected with storm movements as they are understood, occurs in the district extending from the Valley of the Colorado westward to the Pacific and northward to Oregon and southern Idaho. Occasional afternoon thunderstorms form in the mountains; but less frequently in the Sierra Nevada and Sierra Madre, than in the Wasatch, Uintah, and the smaller isolated ranges of Nevada. But these thunderstorms, due to convectional currents, are not severe as a rule nor accompanied by heavy precipitation unless occurring in connection with the now well recognized type of southwestern storm—the Sonora. The storms moving from the northwestern States of Mexico are probably of subtropical origin and may be in some way connected with the storms traversing the Gulf of Mexico. The normal July pressure on the sea-level plane, for the district under consideration, is such that west-moving storms developing south of latitude 30°N. and west of the 110th meridian, drift naturally northwest. During the last week of July such a condition seems to have occurred. Beginning July 17 and lasting for about ten days unsettled, showery weather prevailed. In Nevada and Utah strong south or southwest winds, reaching velocities as high as 42 miles at Modena and 30 miles at Tonopah, were reported. During this period many thunderstorms occurred throughout the district. In the Salt Lake section precipitation amounted to more than one inch. While in southern Utah the amount was below this.

In detail the various storms were as follows: July 3–5, a thunderstorm condition showing little eastward progression. On July 17–21, an ill-defined circulation, with winds mostly from the south and southeast in Utah. On July 22 a well marked storm on the west Gulf of Mexico passed inland, that is, to the west. On the daily weather chart it was noted as apparently breaking up over the middle Rio Grande Valley; but there are grounds for believing that the Sonora storm of July 24–26, referred to above, was associated with this original disturbance on the Gulf. If such a relation can be proven, by reference to the Mexican reports, an important light will be thrown upon the origin of these Sonora storms.

NOTE FROM RECLAMATION SERVICE, BY PROJECT ENGINEER, FALLON, NEV.

It may interest you to know that we have completed negotiations which will allow us to use Lake Tahoe as a storage reservoir and that we are now engaged in building a dam at the outlet of the lake. The information gathered through the Weather Bureau correspondence regarding snowfall and run-off last winter has proven valuable to us, and I believe as this information accumulates we will be able to regulate the lake very closely.

Throughout District No. 10 there was almost 100 per cent of the possible sunshine, except in the Utah and eastern Nevada mountain sections, where afternoon cloudiness somewhat decreased the amount.

TABLE 1.—*Climatological data for July, 1909. District No. 10, Great Basin.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, 01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Wyoming.																				
Border	Uinta	6,085	7	62.4	+ 0.6	94	2	31	12	52	1.41	+ 1.02	0.43	0.0	5	18	9	4	w.	S. W. Condron
Evanston	do	6,869	13	62.1	+ 0.3	91	1†	33	12†	47	2.32	+ 1.60	0.82	0.0	5	22	9	0	w.	Frank Tucker
Idaho.																				
Geneva	Bear Lake										1.36		1.10	0.0	2	20	9	2	.....	F. W. Boehme
Grace	Bannock	5,400	3	67.6	− 0.4	99	2	40	7†	51	1.44	+ 0.49	0.60	0.0	5	21	8	2	s.	E. A. Ekern
Oxford	do	4,750									1.38		1.00	0.0	3	26	5	0	.....	Edwin Smith.
Paris	Bear Lake	5,946	13	64.0	+ 0.5	94	1	35	15†	56	1.31	+ 0.66	1.05	0.0	.....	.....	.....	.....	w.	John Norton.
Stone	Oneida	4,520	2								0.32	+ 0.15	0.30	0.0	2	25	6	0	s.	Thos. W. Roe.
Weston	do	4,610	12	67.6	− 0.4	99	2	37	7	50	1.38	+ 0.82	0.55	0.0	4	20	7	4	s.	Wm. T. Chatterton.
Utah.																				
Annabella[k]	Sevier	5,250	4	73.6	.....	102	1	46	7	50	0.58	− 0.70	0.22	0.0	8	13	18	0	sw.	J. W. Fairbanks.
Beaver	Beaver	6,000	6	70.8	+ 3.8	97	1	49	28	38	1.12	− 0.15	0.37	0.0	5	18	9	4	sw.	James Connell.
Black Rock	Millard	4,872	9																	A. H. Cassell.
Blacksmiths Fork	Cache	5,500																		U. S. Forest Service.
Card Canyon	do	5,000																		Do.
Castle Rock	Summit	6,244	6								0.68	− 0.02	0.33	0.0	5	21	8	2	w.	David Moore.
Cedar City	Iron	5,750	4																	J. M. Foster.
Corinne	Boxelder	4,240	39	76.4	− 2.6	109	2	45	7†	52	1.17	+ 0.74	0.40	0.0	4	21	7	3	.....	A. C. Murphy.
Coyoto	Garfield		8																	Mrs. E. Clayton.
Deseret	Millard	5,441	15	74.4	+ 2.4	103	1†	44	7	46	1.31	+ 1.16	0.50	0.0	5	21	5	5	s.	S. W. Weston.
Enterprise (near)	Washington	4,270	1								0.81		0.42	0.0	4	14	9	8	s.	John Day
Farmington	Davis	4,267	9	71.8	− 0.7	97	1	44	28	42	0.57	+ 0.20	0.23	0.0	5	23	8	0	nw.	Charles Boylin.
Fillmore	Millard	5,100	19	76.6	+ 1.3	108	1	45	27	45	0.79	+ 0.16	0.19	0.0	6	.....	.....	.....	.....	J. J. Storley.
Frisco	Beaver	7,318	15	74.2	+ 0.4	100	1	47	28	34	1.30	+ 0.54	0.75	0.0	3	.....	.....	.....	.....	E. R. Smyth.
Garland	Boxelder	4,350	....	71.6	.....	100	1	43	12	52	0.64	.....	0.40	0.0	2	25	3	3	s.	Harry B. Shaw.
Garrison[d]	Millard		6	72.0	− 0.5	98	1	42	28	40	0.62	+ 0.24	0.22	0.0	3	20	3	5	s.	E. M. Smith.
Golden Reef	Beaver	7,000									2.72		1.11	0.0	3	.....	.....	.....	.....	D. W. Woodward
Government Creek	Tooele	5,277	9	73.2	+ 0.1	101	1	39	28	43	1.06	+ 0.64	0.42	0.0	4	23	6	2	s.	Walter James.
Heber	Wasatch	5,696	16	67.0	+ 1.1	98	1†	38	8†	53	0.57	− 0.23	0.20	0.0	7	22	4	5	s.	John Crook.
Henefer	Summit	5,301	10	65.0	+ 0.2	98	2	33	28	54	0.96	+ 0.39	0.30	0.0	5	22	4	5	w.	Wm. Brewer.
Hoyts Canyon	do	7,400																		James Woolstenhulme.
Huntsville	Weber	5,100	14								1.97	+ 1.64	1.37	0.0	7	20	10	1	.....	Lars Petersen
Ibapah (near)	Tooele	7,500	4																	E. S. Gamwell
Kanosh	Millard	5,250	1								0.76		0.29	0.0	5	.....	.....	.....	.....	Geo. Crane.
Kelton	Boxelder	4,230	31	69.6	− 6.8	97	3†	40	12†	52	0.15	− 0.21	0.15	0.0	4	14	16	1	sw.	F. W. Klock.
Levan	Juab	5,010	19	71.0	− 0.4	99	1	45	28	42	1.14	+ 0.54	0.33	0.0	8	23	4	4	sw.	Wm. Brown.
Logan	Cache	4,507	18																	State Agricultural College
Lucin	Boxelder	4,504	5	69.2	− 0.4	105	1	30	28	59	0.11	− 0.26	0.11	0.0	1	21	4	6	.....	C. J. Burke.
Lund	Iron	5,086	1	69.2	.....	93	1†	43	9†	41	0.40	.....	0.40	0.0	1	14	7	10	sw.	M. E. Smith.
Manti	Sanpete	5,775	15	65.3	− 5.2	85	2	44	29	33	0.77	+ 0.20	0.40	0.0	3	17	5	9	.....	J. M. Anderson.
Marion	Summit	6,750	5								0.67	+ 0.04	0.31	0.0	7	17	4	10	s.	James Woolstenhulme.
Marysvale	Piute	6,180	10	67.4	+ 1.1	96	1	40	28	58	2.20	+ 1.21	0.80	0.0	8	15	5	11	sw.	John W. Henry.
Meadowville	Rich	6,200	10																	J. S. Moffat.
Milford	Beaver	4,962	5	77.2	.....	100	1†	42	23	44	0.55	.....	0.40	0.0	2	23	0	8	.....	C. M. Temple.
Millville	Cache	4,848	14								1.32	+ 0.94	0.63	0.0	6	.....	.....	.....	.....	Fred Yeates.
Minersville	Beaver	5,070	12								1.35	+ 0.78	0.65	0.0	3	.....	.....	.....	.....	Geo. Roberts.
Modena	Iron	5,479	9	70.8	+ 1.1	96	1	43	7	41	0.87	+ 0.56	0.47	0.0	4	15	14	2	sw.	U. S. Weather Bureau
Morgan	Morgan	5,080	6	67.3	+ 1.4	97	1	37	28	49	2.55	+ 1.91	1.50	0.0	5	16	14	1	nw.	W. Visick.
Moroni	Sanpete	5,519	1								1.46	.....	0.78	0.0	5	5	25	1	sw.	B. F. Eliason.
Mount Nebo	Utah	4,650	8	75.4	+ 1.2	100	2	45	28	41	0.71	+ 0.26	0.35	0.0	3	22	8	1	s.	D. C. Wolkey.
Mount Pleasant	Sanpete	5,859	17																	Jane Martin.
Nephi	Juab	6,059	6								0.76	− 0.11	0.25	0.0	6	22	4	5	sw.	A. M. Madsen.
Nephi (near)	do	6,059									0.89	− 0.12	0.37	0.0	5	18	11	2	sw.	S. R. Boswell.
Oak City	Millard	4,900	5																	Jos. Finlinson.
Ogden (1)	Weber	4,310	8	73.4	− 0.7	97	1	50	28	32	1.05	+ 0.80	0.31	0.0	6	26	3	2	nw.	Enoch Farr.
Ogden (2)	do	4,310	39																	W. H. Chevers.
Panguitch	Garfield	6,560	1								0.37	.....	0.15	0.0	6	18	0	13	.....	F. C. Syrett.
Panguitch Lake	do	9,000																		James E. Prince
Park City	Summit	7,800	12	68.4	+ 4.0	99	1	40	7	51	2.66	+ 1.84	0.80	0.0	5	24	7	.....	.....	Irvin Evans.
Parowan	Iron	5,970	18	70.1	− 1.0	96	1	42	28	37	1.62	+ 0.78	1.02	0.0	6	19	0	12	.....	Scott Matheson
Payson	Utah	4,637	6								0.46	− 0.03	0.20	0.0	6	19	3	9	sw.	D. L. Coombs.
Pinto	Washington	5,907	12	66.2	− 0.4	95	1†	36	28†	45	1.13	+ 0.08	0.37	0.0	6	16	3	9	s.	John H. Harrison.
Promontory	Boxelder	4,913	2								0.60	+ 0.40	0.60	0.0	2	.....	.....	.....	.....	F. C. Houghton.
Provo	Utah	4,532	17	72.0	− 1.1	100	2	45	28	46	0.47	+ 0.24	0.25	0.0	3	18	12	1	n.	James A. Oliver.
Randolph	Rich	6,442	6																	Wm. Rex.
Richfield[f]	Sevier	5,350	19	70.4	− 0.1	102	1	40	28	50	0.61	+ 0.06	0.38	0.0	3	14	0	11	.....	Joseph J. Jensen.
Richins Summit	Summit	6,500									0.96		0.30	0.0	5	.....	.....	.....	.....	Ernest H. Brewer.
Saltair[a]	Salt Lake	4,220	6	75.6	− 0.8	95	1	55	7	31	1.88	+ 1.26	0.94	0.0	7	.....	.....	.....	.....	E. J. Bench.
Salt Lake City	do	4,366	35	74.5	− 1.7	101	1	52	28	32	0.75	+ 0.21	0.42	0.0	7	20	9	2	nw.	U. S. Weather Bureau.
Scipio	Millard	5,260	14	69.0	− 1.0	98	5	35	28	48	1.52	+ 0.88	0.90	0.0	5	18	5	8	sw.	Thos. Memmott.
Silver Lake	Salt Lake		1	61.7	.....	90	2	33	28	49	1.04	.....	0.35	0.0	6	18	6	7	e.	N. S. Fetherolf.
Soldier Summit	Utah	7,474	17																	Agent D. & R. G. Ry.
Spanish Fork Canyon	do			75.9	.....	101	2	52	28	38	0.25	.....	0.13	0.0	5	18	0	13	.....	U. S. Reclamation Service
Thistle	do	5,075	17																	Agent D. & R. G. Ry.
Tooele	Tooele	4,900	13	71.4	− 2.2	97	1	46	28	38	1.90	+ 1.44	0.66	0.0	8	8	2	21	n.	E. A. Bonelli
Utah Lake Pump'g Sta.	do	4,500	4	71.6	.....	94	2	47	7	35	1.28	.....	0.78	0.0	6	20	11	0	se.	W. A. Knight.
West Canyon	Tooele	7,800									1.75		1.00	0.0	4	.....	.....	.....	.....	Walter James
Oregon.																				
Ana River	Lake										0.46	.....	0.27	0.0	3	23	7	1	nw.	Curtis Duvall.
Burns	Harney	4,157	19	66.1	+ 0.6	95	2†	31	7	52	0.07	− 0.14	0.05	0.0	2	23	7	1	sw.	J. C. Welcome, jr.
Burns Mill	do										0.32	.....	0.20	0.0	4	25	2	4	n.	John P. Sayer.
Cecils Ranch	do										1.13	.....	0.50	0.0	6	17	7	7	nw.	H. D. Cecil.
Christmas Lake	Lake		1	57.2		93	2	20	18	56	0.60	.....	0.35	0.0	5	15	7	9	nw.	John C. Green.
Paisley	do	4,500	5	64.4	− 1.6	89	2	35	7	36	0.23	− 0.43	0.13	0.0	2	20	6	5	sw.	E. C. Woodward.
"P" Ranch	Harney										0.53	.....	0.42	0.0	4	23	7	1	e.	A. M. Byrd.
Silver Lake	Lake	4,700	14	60.4	− 4.3	92	3†	25	18	54	0.43	− 0.05	0.20	0.0	4	23	1	7	n.	E. K. Henderson.
California.																				
Truckee	Nevada	5,819	38	59.5	.....	86	14	32	5	....	T.	.....	.....	.....	.....	.....	.....	.....	.....	Agent Southern Pac. Co.
Nevada.																				
Austin	Lander	6,594	21																	
Battle Mountain	do	4,843	39	75.0	− 0.2	112	4	35	6	62	T.	. 0.13	T.	0.0	0	28	2	1	s.	
Beowawe	Eureka	4,905	39	69.0	− 8.2	100	21	36	29	56	0.00	− 0.22	0.00	0.0	0	31	0	0	s.	
Carlin	Elko	5,232	39	70.2	− 0.4	108	3	30	6†	66	0.00	− 0.11	0.00	0.0	0	28	0	3	s.	
Carson Dam	Churchill	4,032	3	71.9	.....	96	2	43	5	45	0.00	.....	0.00	0.0	0	27	2	2	w.	
Cherry Creek	White Pine	6,450	1	70.6	.....	97	1	38	6	46	0.57	.....	0.20	0.0	5	15	16	0	sw.	
Clover Valley	Elko	6,000	10	67.6	.....	97	1	38	6†	46	0.93	.....	0.53	0.0	3	19	10	2	.....	
Cobre	do			64.0	− 9.5	98	18†	29	28	58	0.71	+ 0.55	0.37	0.0	4	24	5	2	se.	

TABLE 1.—*Climatological data for July, 1909. District No. 10*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Nevada—Cont'd.																				
Columbia	Esmeraldo	5,750	3	.....	.....	97	12†	.....	.....	.....	0.85	.....	0.58	0.0	2	28	3	0	se.	
Dutton	Elko	5,100	2	.....	.....	.....	.....	.....	.....	.....	.....	0.00	.....	0.0	.....	.....	.....	.....	sw.	
Elko	do	5,342	39	66.2	− 4.7	99	1	32	27	55	0.30	+ 0.04	0.17	0.0	4	18	4	9	ne.	
Ely	White Pine	6,421	19	71.6	+ 4.6	96	1	45	7	44	0.16	− 0.37	0.08	0.0	3	26	5	.....	w.	
Eureka	Eureka	6,500	7	79.2	.....	98	1	31	6	46	0.38	.....	0.10	0.0	7	19	7	5	s.	
Fallon	Churchill	3,965	5	70.6	− 2.9	98	2†	39	6	48	T.	− 0.10	T.	0.0	.....	20	11	.....	nw.	
Fernley	Lyon	4,200	2	70.8	− 7.1	100	2	40	6	48	.....	− 0.31	.....	0.0	.....	26	5	0	w.	
Gardnerville	Douglas	4,830	10	65.8	.....	96	1	30	6	59	T.	.....	T.	0.0	.....	23	7	1	s.	
Geyser	Lincoln	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Golconda	Humboldt	4,697	31	72.2	− 4.1	103	15	33	6	54	.....	− 0.07	.....	0.0	.....	24	4	3	nw.	
Halleck	Elko	5,631	17	.....	.....	94	5†	.....	.....	.....	0.01	− 0.39	0.01	0.0	1	20	10	1	.....	
Hamilton	White Pine	7,977	3	53.6	.....	70	15†	23	6	38	.....	.....	.....	0.0	.....	21	3	7	sw.	
Humboldt[d]	Humboldt	4,236	39	71.6	− 2.4	100	1	40	28	43	.....	− 0.04	.....	0.0	.....	30	.....	1	sw.	
Jean	Clark	2,074	2	.....	.....	109[e]	12†	.....	.....	.....	0.03	.....	0.03	0.0	1	.....	.....	.....	.....	
Leetville	Churchill	4,020	3	70.4	.....	98	2†	40	6	49	.....	.....	.....	0.0	.....	30	1	0	w.	
Lewers Ranch	Washoe	5,500	22	64.6	− 3.1	91	11†	31	6	46	.....	.....	.....	0.0	.....	23	8	0	.....	
Lovelock[c]	Humboldt	3,977	17	71.0	− 5.5	102	22	37	6	53	0.04	− 0.09	0.04	0.0	1	.....	.....	.....	.....	
McAfees Ranch	Esmeraldo	4,835	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Millett	Nye	.....	2	67.8	.....	97	1	35	7	52	0.38	.....	0.38	0.0	1	25	3	3	s.	
Mina	Esmeraldo	4,600	3	76.3	.....	104	15	45	4	50	.....	.....	.....	0.0	.....	25	2	3	w.	
Palmetto	do	6,780	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Potts	Nye	6,990	17	65.4	− 5.2	96	14	30	6	52	0.08	− 0.58	0.05	0.0	3	17	2	12	s.	
Quinn River Ranch[d]	Humboldt	4,850	8	66.6	.....	96	2	28	6	56	.....	.....	.....	0.0	.....	.....	.....	.....	sw.	
Reno	Washoe	4,532	39	67.4	− 0.1	95	2†	36	6	45	T.	− 0.14	T.	0.0	.....	27	4	0	w.	U. S. Weather Bureau.
Soda Lake	Churchill	4,534	39	.....	.....	103	2	.....	.....	.....	.....	.....	.....	0.0	.....	30	.....	1	w.	
Tecoma	Elko	4,812	32	67.4	− 6.8	103	16	33	7†	61	0.31	− 0.15	0.36	0.0	2	11	13	7	n.	
Tonopah	Nye	6,090	3	73.4	.....	94	13	40	6	37	0.20	.....	0.19	0.0	2	26	5	0	se.	
Wabuska[a]	Lyon	4,347	7	68.0	.....	98	2	37	6	53	T.	.....	T.	0.0	.....	27	4	0	nw.	
Wells	Elko	5,631	38	65.8	− 5.3	101	1	36	6†	54	0.13	− 0.13	0.10	0.0	2	19	9	3	s.	
Winnemucca	Humboldt	4,432	31	68.2	− 3.4	100	2	35	6	49	0.02	− 0.15	0.02	0.0	1	27	4	0	sw.	

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 10, Great Basin.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Wyoming.																																	
Border	Bear				.30														T.	.25					.23	T.	.20	.43					1.41
Evanston	do			T.	.82	.47													.08						.70		.25						2.32
Idaho.																																	
Geneva	Bear																										1.10	.26					1.36
Grace	do			.30	.60	.02															T.				T.		.18	.34	T.				1.44
Oxford	do																							.12			.26	1.00					1.38
Paris	do				.11																						1.05	.05					1.21
Stone	Deep Creek	.02			T.																				T.		T.	.30					0.32
Weston	Bear			.07		.55																					.32	.44					1.38
Utah.																																	
Annabella	Sevier			T.		.01												.01	.22	.07	.02		.10	T.		.11	.04						0.58
Beaver	do	T.	T.	.17	T.													.03	.37	T.		T.	.23	T.		.32							1.12
Black Rock	do																																
Blacksmiths Fork	Bear																																
Card Canyon	do																																
Castle Rock	Weber		.10	.05		.33									T.				.08							.12							0.68
Cedar City	Desert																																
Corinne	Bear				.40													.09		T.						.30	.38						1.17
Coyoto	Sevier																																
Deseret	do																	.10	.40	.50			.10			.21							1.31
Enterprise (near)	Desert	T.	.33	.04																					.42		.02						0.81
Farmington	Great Salt Lake			.23	.16														T.	T.	.03		T.			.09	.06						0.57
Fillmore	Sevier		T.	.14	.06													T.	.15	.10			.19			.15						T.	0.79
Frisco	Desert		.25																	.30							.75						1.30
Garland	Bear																										.24	.40					0.64
Garrison	Desert		T.	.22																			T.		.20		T.						0.42
Golden Reef	do																			1.11					.94	.67							2.72
Government Creek	do			.24														T.	.28	.42			T.			T.	.12						1.06
Heber	Jordan			.10	.08										.05			.05		.04			.05			T.	.20						0.57
Henefer	Weber		T.	T.	.30	.29									T.			T.	T.	.22	T.		.01	T.		T.	.14	T.					0.96
Hoyts Canyon	do																																
Huntsville	do			1.37	.17														.03	.04			.02			.25	T.	.09					1.97
Ibapah (near)	Desert																																
Kanosh	Sevier			.20															.08	.02			.29			.17							0.76
Kelton	Great Salt Lake																										.15						0.15
Levan	Sevier		T.	.33	.17													.08	.25	.05			.20	.02		.04							1.14
Logan	Bear																																
Lucin	Desert			T.	T.																			T.	T.	T.	.11						0.11
Lund	do																		T.	T.			T.	T.		T.	.40						0.40
Manti	Sevier	T.			T.													T.	.17	.20	T.		.40				T.						0.77
Marion	Weber			T.		.03									.03			.03	.12		T.		.15			.01	.30						0.67
Marysvale	Sevier		T.	.35	.19	T.												.15	.32	.80		T.	.21	.05		T.	.13						2.20
Meadowville	Bear																																
Milford	Sevier																							.15		.40							0.55
Millville	Bear				.09														.06							.19	.63	.35					1.32
Minersville	Sevier			.65																T.			.18			.52							1.35
Modena	Desert	T.	.47	.10															T.	T.			T.	.25	T.	.05							0.87
Morgan	Weber			T.	1.50	.50															.05					.05	.45	T.					2.55
Moroni	Sevier			T.	.25										T.				.14	.78			.24	T.			.05						1.46
Mount Nebo	Jordan			.35																.03			T.				.33						0.71
Mount Pleasant	Sevier																																
Nephi	Jordan			.25	.02														.11	.08			.17				.13						0.76
Nephi (near)	do			.37	.05													.20	.09				.18										0.89
Oak City	Sevier																																
Ogden (1)	Weber				.31	.20													.09	.02							.27	.16					1.05
Ogden (2)	do																																
Panguitch	Sevier	T.			.03													.04	.02		T.		.03	.15	T.	.10							0.37
Panguitch Lake	do																																
Park City	Weber			.56															.80	.30							.40	.60					2.66
Parowan	Desert		.05	.21															14			.15	.05			1.02							1.62
Payson	Jordan			.05	T.													.03	.10	.05			.03				.20					T.	0.46
Pinto	Desert		.09	.28	0.8														T.		T.		.20	.11		.37							1.13
Promontory	Great Salt Lake																									•	.60						0.60
Provo	Jordan																	T.	T.	.25						.10	.12						0.47
Randolph	Bear																																
Richfield	Sevier			T.														T.	.38	T.	T.	T.	T.	.13			.10					T.	0.61
Richins Summit	Weber				.30	.29														.22			.01				.14						0.96
Saltair	Great Salt Lake	.94			.22	.55													.02	.03			.03		•	T.	.09						1.88
Salt Lake City	Jordan			.03	.09										T.				.16	.30			T.	T.		.07	.05	.05					0.75
Scipio	Sevier			.90	T.														.35	.07			.11				.09						1.52
Silver Lake	Jordan			.27	.17										.02			T.		.35	T.		.06				.17					T.	1.04
Spanish Fork Canyon	do			.02															.04	.13			.02				.04						0.25
Thistle	do																																
Tooele	Great Salt Lake			T.	.34	.02									.06				.17	.56	T.		.01			.66	.08					T.	1.90
Utah Lake Pump'g Sta	Jordan			T.	T.													.04	.13	.06					.78	.25	.02						1.28
West Canyon	Desert			.35															•	1.00						.40							1.75
Oregon.																																	
Ana River	Interior Drainage					.27	.06			.13																							0.46
Burns	do							.02		.05																		T.					0.07
Burns Mill	do				.04	.20	.03		.05																		T.						0.32
Cecils Ranch	do					.22	.03	.02	.50	.33																		.03					1.13
Christmas Lake	do					.05	.13			.35	T.																.03	.04					0.60
Paisley	do						.10			.13																							0.23
"P" Ranch	do								.08	.01	.42																	.02					0.53
Silver Lake	do					.20	.10			.08																	.05						0.43
California.																																	
Boca	Truckee																																0.00
Bodie	East Walker																																
Bridgeport	do																																
Donner Ice Camp	Truckee																																
Fales Hot Springs	West Walker																																0.00
Hobart Mills	Truckee																																
Lundy	East Walker																																
Marklesville	Carson																																
Shields Ranch	West Walker																																
Silver Creek	Carson																																
Tahoe	Truckee																																
Truckee	do																																
Nevada.																																	
Austin	Reese																																
Battle Mountain	Humboldt				T.																												T.
Beowawe	do																																
Buckskin	Walker																															T.	T.
Carlin	Humboldt																																0.00
Carson Dam	Carson																																0.00

TABLE 2.—*Daily precipitation for July, 1909. District No. 10*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Nevada—Cont'd.																																	
Cherry Creek	Humboldt	.01		.09	.10									T.										.20		.17							0.57
Clover Valley	do		.53	T.	.04																						.36						0.93
Cobre	do			.01	.12																			T.		T.	.57	.01					0.71
Columbia	Desert		T.	.58	.27																												0.85
Dutton	Humboldt																																0.00
Elko	do		.08	.04																			.17									.01	0.30
Ely	do	.05		.03										T.											.08								0.16
Eureka	do	.05	.02	.03	.03																		T.	.08		.10	.07						0.38
Fallon	Carson		T.																														T.
Fernley	Truckee																																
Gardnerville	Carson																															T.	T.
Geyser	Humboldt																																
Glenbrook	Truckee																															T.	T.
Golconda	Humboldt																																0.00
Halleck	do																						.01										0.00
Hamilton	do																																
Humboldt	do																																0.00
Jean	Desert																						T.			.03							0.03
Leetville	Carson																																0.00
Lewer's Ranch	Truckee																																
Lovelock	Humboldt																										.04						0.04
McAfee's Ranch	Desert																																
Millett	Reese																							.38									0.38
Mina	Desert																																0.00
Mount Rose Ranch	Truckee																																T.
Palmetto	Desert																																
Paradise Valley	Little Humboldt																																
Potts	Reese	T.	T.	0.05																			.01	T.		.02							0.08
Quinn River Ranch	Humboldt																																0.00
Reno	Truckee																															T.	T.
Smith	West Walker																															.02	0.02
Soda Lake	Carson																																0.00
Sweetwater	East Walker																																0.00
Tecoma	Humboldt		T.	T.	0.01																			T.		T.	.30						0.31
Tonopah	Desert	.03	.17																				T.			T.							0.20
Wabuska	Walker		T.																													T.	T.
Wells	Humboldt	.10																								.03							0.13
Willow Point	Little Humboldt																																0.00
Winnemucca	Humboldt		T.																								.02						0.02
Yerington	Walker																																

TABLE 3.—*Maximum and minimum temperatures at selected stations, July, 1909. District No. 10, Great Basin.*

Date.	Wyoming.						Utah.																					
	Border.		Evanston.		Weston, Idaho.		Corinne.		Deseret.		Government Creek.		Maryavale.		Modena.		Ogden.		Parowan.		Provo.		Salt Lake City.		Burns, Oreg.		Elko, Nev.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	91	52	91	44	97	47	108	59	103	62	101	65	96	51	96	58	97	67	96	61	99	58	101	70	86	54	99	52
2...	94	46	91	46	99	54	109	65	103	63	98	81	94	55	96	62	96	69	91	67	100	60	98	70	95	49	92	56
3...	92	50	89	56	92	65	106	68	96	63	91	60	95	53	87	59	89	71	87	58	93	64	91	65	92	40	85	61
4...	86	55	77	55	88	57	93	63	92	59	88	56	82	57	84	58	85	61	86	58	89	61	88	58	90	38	78	44
5...	80	50	81	42	86	51	94	61	91	54	90	56	83	50	85	57	90	60	85	57	93	55	91	62	88	35	62	33
6...	84	40	78	44	85	45	93	54	88	52	85	60	81	47	81	55	78	51	88	53	84	52	75	58	78	36	74	34
7...	82	33	74	38	82	37	91	45	90	44	85	44	81	42	84	43	82	54	85	53	87	47	80	56	72	31	85	38
8...	86	34	78	38	88	40	98	54	90	58	89	61	87	42	84	49	87	58	.....	.....	91	47	88	58	86	35	78	33
9...	80	39	79	40	83	42	97	52	90	49	87	47	85	43	85	46	85	59	.....	.....	88	53	84	62	88	39	87	42
10...	78	44	75	40	85	52	92	59	90	59	90	60	83	48	86	49	84	63	.....	.....	90	54	84	68	90	45	86	52
11...	72	40	74	34	77	46	91	54	90	53	82	74	89	52	94	57	80	55	.....	.....	82	50	77	60	87	41	87	50
12...	76	31	75	33	82	40	90	49	90	55	88	74	88	51	94	56	83	52	.....	.....	85	48	82	56	84	42	90	42
13...	80	36	80	36	88	41	97	53	96	51	92	61	92	50	95	60	89	57	.....	.....	90	53	86	60	92	48	91	44
14...	83	33	81	42	89	40	100	56	98	56	93	60	91	50	93	56	89	61	90	59	94	58	86	62	94	50	92	51
15...	87	40	84	46	90	46	102	60	99	56	95	51	91	49	92	58	92	64	89	55	97	55	94	64	93	48	97	50
16...	93	41	86	47	96	50	105	55	98	65	97	65	90	48	91	58	94	66	89	54	98	54	97	70	92	42	96	50
17...	91	42	85	43	95	47	108	56	95	67	93	62	89	52	90	55	94	65	89	55	97	53	95	70	87	32	96	41
18...	90	40	78	58	90	63	101	54	88	65	87	59	84	56	85	66	85	61	85	56	87	54	84	60	87	49	88	44
19...	85	55	79	56	90	55	102	59	87	60	87	58	78	55	83	61	86	64	82	57	88	62	85	61	90	49	91	43
20...	82	42	77	54	87	50	89	57	90	63	88	60	83	52	87	58	86	64	83	56	91	57	85	67	92	42	91	56
21...	83	35	83	37	87	41	99	53	94	54	88	45	84	50	90	58	87	59	82	58	88	49	84	60	93	42	92	42
22...	86	41	77	54	90	45	88	57	92	63	75	55	77	58	79	58	84	64	76	60	82	55	86	66	93	51	93	60
23...	80	53	78	50	87	52	95	61	92	58	87	55	78	54	85	59	86	64	80	57	88	61	87	65	95	49	94	52
24...	85	42	80	45	90	50	99	62	93	60	91	60	84	51	88	57	89	65	88	54	90	56	92	66	92	44	94	43
25...	84	44	81	42	93	49	97	62	93	64	92	63	84	53	82	57	88	65	88	54	94	56	88	62	87	46	90	48
26...	70	53	73	50	82	55	87	57	82	54	82	51	78	53	78	50	77	58	82	50	84	59	83	60	85	42	82	36
27...	66	43	69	47	70	50	93	54	84	55	76	45	77	49	78	50	70	52	80	46	78	57	71	56	71	41	78	32
28...	78	36	73	33	79	40	88	45	87	45	83	39	82	40	82	45	79	50	79	42	84	45	80	52	78	45	82	33
29...	80	33	77	40	87	43	96	49	89	45	87	50	83	41	84	44	87	56	82	50	90	46	89	60	87	52	90	42
30...	86	34	82	40	90	42	100	48	94	53	91	55	86	41	88	47	89	58	84	51	92	47	91	61	89	56	90	38
31...	89	36	83	52	93	44	100	50	94	53	92	60	87	44	88	49	91	59	84	55	94	48	94	62	92	52	92	43
Mns	83.2	41.7	79.6	44.6	87.6	47.7	97.0	55.8	92.2	56.7	88.7	57.8	85.3	49.6	86.9	54.7	86.4	60.4	85.2[f]	55.0[f]	89.9	54.0	87.0	62.2	88.2	44.0	87.8	44.7

Date.	Nevada.																							
	Ely.		Eureka.		Fallon.		Jean.		Lovelock.		Millett.		Mina.		Quinn River Ranch.		Reno.		Tecoma.		Tonopah.		Winnemucca.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	96	54	98	60	96	55	.....	.....	.....	.....	97	51	103	65	94	53	93	54	99	43	94	70	95	58
2	92	54	96	58	98	59	.....	.....	.....	.....	95	53	98	65	96	48	95	58	96	44	92	68	100	57
3	91	63	88	59	97	59	.....	.....	.....	.....	90	59	96	60	91	53	88	58	97	60	88	63	95	60
4	87	67	85	52	92	52	.....	.....	89	42	90	55	92	45	86	50	84	48	87	49	86	61	89	53
5	83	52	85	51	82	44	.....	.....	74	50	79	39	94	58	78	45	62	46	86	43	80	46	72	43
6	86	53	77	31	74	39	.....	.....	77	37	78	37	90	50	69	28	73	36	86	39	76	40	71	35
7	82	45	85	39	83	44	.....	.....	89	49	85	35	90	56	79	42	83	41	88	33	82	51	82	42
8	88	58	84	50	87	54	.....	.....	99	50	83	42	91	57	.....	.....	81	46	90	34	81	59	86	53
9	86	60	88	46	88	48	.....	.....	85	50	87	39	94	55	.....	.....	80	48	92	36	84	58	86	48
10	90	56	84	46	88	50	100	.....	99	52	86	45	96	59	.....	.....	81	47	89	38	86	55	82	48
11	90	48	87	47	88	53	107	.....	94	54	90	50	103	60	.....	.....	88	50	92	47	91	63	84	49
12	92	50	92	47	95	52	109	.....	98	55	95	48	101	64	91	50	93	52	90	36	94	67	91	45
13	94	51	94	51	93	55	109	.....	100	63	95	48	94	63	92	52	93	54	94	42	94	66	93	53
14	93	49	94	49	95	53	105	.....	101	63	95	50	102	63	93	48	93	55	96	44	92	66	93	54
15	93	49	96	53	98	55	105	.....	100	52	95	57	104	62	94	42	91	58	101	42	92	68	96	53
16	92	51	95	55	98	50	105	.....	98	53	95	48	101	57	92	44	88	49	103	47	92	65	94	52
17	91	51	94	51	94	48	104	.....	95	42	93	46	96	51	88	38	82	52	101	42	89	63	90	45
18	91	51	90	49	88	45	102	.....	91	44	90	43	97	47	84	48	84	44	92	46	87	59	85	45
19	88	58	89	58	91	45	102	.....	94	47	90	39	95	50	84	36	79	49	89	42	86	60	87	42
20	88	55	89	45	84	47	102	.....	92	42	86	52	96	48	84	48	83	45	89	46	84	54	84	51
21	90	46	92	47	96	48	104	.....	101	50	92	40	101	57	94	38	92	47	96	33	90	64	93	52
22	82	55	92	64	98	54	102	.....	102	55	95	54	101	70	94	47	92	55	92	42	89	67	96	51
23	94	60	85	57	97	57	95	.....	100	56	85	55	100	60	94	59	91	54	93	47	89	62	95	55
24	90	59	90	53	96	53	102	.....	98	52	94	48	102	61	93	46	90	51	98	46	92	63	92	49
25	82	51	89	54	95	52	90	.....	95	48	93	49	89	53	90	54	85	47	90	47	88	64	90	48
26	93	53	79	53	84	51	94	.....	83	50	85	49	85	48	80	52	74	53	86	42	80	54	80	49
27	90	56	74	36	78	44	92	.....	80	41	76	48	89	50	80	31	76	45	83	42	77	45	71	38
28	86	55	82	38	83	43	94	.....	89	41	85	40	94	56	81	38	82	45	82	33	81	53	82	37
29	90	53	86	50	90	48	98	.....	93	45	87	43	95	56	88	40	86	50	92	41	84	59	89	42
30	84	56	90	51	91	55	102	.....	80	54	89	39	94	59	90	44	88	50	93	42	86	60	92	45
31	90	54	89	54	91	57	102	.....	95	52	88	44	89	53	94	46	86	53	91	47	85	64	94	45
Means	89.2	54.0	88.3	50.2	90.6	50.6	101.1[i]	.....	92.5[e]	49.0[e]	89.1	46.6	95.9	56.7	87.9[d]	45.2[d]	85.0	49.7	92.3	42.5	86.8	59.9	87.9	48.8

Climatological Data for July, 1909.

DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

SUMMARY.

In California, especially north of the Tehachapi, there were no noteworthy features. The month as a whole was one of pleasant weather and afternoon temperatures in the interior at no time exceeded 107°. The warmest day was the 13th, when in the San Joaquin Valley 107° was reached. In the southern counties warm spells on the 1st, 13th, and 14th occurred; and a temperature of 117° was reached in the Salton Desert section. This, however, is not as high as is ordinarily reached in that section at this time. On the other hand temperatures as low as 26° were recorded at Tamarack and Towle, Cal., on the 6th. Also in the portion of Oregon lying in District No. 11 a temperature of 26° was reached at Lakeview on the 7th and at Klamath Agency on the 18th, and the mean temperature of the whole month was notably low.

Throughout District No. 11 there was almost 100 per cent of the possible sunshine, and even along the coast there was less fog than usual.

Taken as a whole the month was somewhat below the normal in temperature and above the normal in precipitation.

ELECTRIC POWER LOAD DISPATCHING.

Mr. P. M. Downing, Engineer of Operation and Maintenance-of-Way of the Pacific Gas and Electric Company, has an interesting article in the Journal of Electricity, Power and Gas for July, 1909, page 89. The matter is worthy of note because the plant under consideration has a greater mileage of high voltage lines receiving power from a larger number of sources than any other plant in the world at the present time.

Ten hydroelectric power houses aggregating an installation capacity of about 67,000 kilo-watts run in parallel but are connected in with and receive power from The Northern California Power Company, The Great Western Power Company, The Stanislaus Power Company, The Snow Mountain Water and Power Company, the steam stations at Oakland, San Jose and San Francisco and the gas engine station at Martin. This seemingly complex system is handled economically and simply in the following way: A load dispatcher with two assistants has a conveniently located office which is the center of operation of the entire system and from which every power house, switching station, etc., receives orders.

By means of reliable telephonic communication the load dispatcher can give orders to every important switching point. On a large diagrammatic board is shown every generating station, transmission line, substation or switching station, etc. As soon as the acknowledgment of an order to operate a switch is received, a dummy switch is set on the large board in the load dispatcher's office. In this way the load dispatcher can tell at a glance what is going on in the entire system of about 1600 miles of sixty kilo-volt lines.

This arrangement will appeal to all forecasters as being somewhat similar to the Weather Bureau system of receipt of messages at a central station and the use of symbols representing the display of weather warnings throughout the country at a given moment. The work of the load dispatcher may be considered as resembling that of the forecaster.

NOTE FROM THE RECLAMATION SERVICE IN CALIFORNIA.

W. W. SCHLECT, Project Engineer.

The Orland Project contemplates the reclamation of 14,000 acres of land in the Sacramento Valley at, or near, Orland.

The storage dam, 127 feet high, is being built on Little Stony Creek, and will impound 46,000 acre-feet.

The distribution system will consist of 80 miles of canals and laterals.

The construction of the dam is well under way and the surveys of the distribution system are being made.

TABLE 1.—*Climatological data for July, 1909. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Oregon.																			
Klamath Agency	Klamath		1	56.4		86	2†	26	18	53	0.35		0.25	0.0	2	22	6	3	sw.	H. G. Wilson.
Klamath Falls	do	4,250	18	61.2	− 0.4	88	2†	31	7	42	0.32	+ 0.10	0.32	0.0	1	20	8	3	nw.	W. H. Heilman.
Lakeview	Lake	4,825	24	65.9	− 0.8	103	23	26	7	64	0.05	− 0.24	0.05	0.0	1	24	3	4	s.	Walter Dutton.
Long Valley	do										T.		T.	T.	0	20	8	3	n.	Cyrus L. Becraft.
Merrill	Klamath	4,070	4	74.6		89	21	29	7	48	0.27	− 0.29	0.27	0.0	1	16	8	6	nw.	Mrs. E. L. Gifford.
Yonna	do	4,146	1	59.0		90	14†	29	7	52	0.51		0.18	0.0	3	19	11	1	s.	Agent, So. Pac. Co.
California.																			
Alturas	Modoc	4,460	5	62.8		95	2†	29	7	58	0.10	− 0.16	0.08	0.0	2	24	6	1	sw.	Prof. C. B. Towle.
Angiola	Tulare	208	9	76.8	− 1.1	109	13†	43	9	52	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Agent, Santa Fe R.R.
Antioch *	Contra Costa	46	30	79.1	+ 3.3	104	12	62	5	....	0.00	0.00	0.00	0.0	0	31	0	0	w.	Agent, So. Pac. Co.
Aptos*	Santa Cruz	102	24	63.4	+ 1.1	78	11	52	30	....	0.00	− 0.01	0.00	0.0	0	26	4	1	nw.	Do.
Auburn	Placer	1,360	38	75.2	− 1.6	103	12	50	3	39	0.00	− 0.02	0.00	0.0	0	31	0	0	sw.	Do.
Azusa	Los Angeles	540	7	70.6	− 2.4	98	1	47	30	47	0.06	+ 0.06	0.06	0.0	1	27	4	0	.....	A. F. Griffith.
Bagdad	San Bernardino	784	6	96.4	+ 0.2	116	1	73	6	34	0.00	− 0.18	0.00	0.0	0	24	0	7	.....	Agent, Santa Fe R.R.
Bakersfield	Kern	404	20	83.2	− 5.4	108	20	58	13	37	0.00	− 0.02	0.00	0.0	0	31	0	0	.....	Do.
Barstow	San Bernardino	2,105	6	84.2	+ 2.0	114	1	51	7	46	T.	− 0.13	T.	0.0	0	30	0	1	w.	E. L. White.
Beckwith	Plumas	5,005	1	64.1		96	13	27	6	55	0.02		0.02	0.0	1	26	3	2	sw.	F. F. Peck.
Berkeley	Alameda	317	22	62.8	+ 1.8	83	11	51	1†	26	0.00	− 0.04	0.00	0.0	0	29	0	2	sw.	State University.
Biggs *	Butte	98	10	76.9	− 1.8	102	12	60	5†	....	0.00	0.00	0.00	0.0	0	31	0	0	s.	Agent, So. Pac. Co.
Bishop	Inyo	4,450	14																	W. A. Chalfont.
Blocksburg	Humboldt	1,700	3	63.3		93	21	37	1	51	0.43		0.43	0.0	1	27	2	2	nw.	Victor Hope.
Blue Canon	Placer	4,695	10	62.2	− 3.8	87	13	34	6†	40	0.00	0.00	0.00	0.0	0	30	0	1	.....	Agent, So. Pac. Co.
Blythe	Riverside			90.5		114	1†	58	28	49	0.00		0.00	0.0	0	27	0	4	sw.	H. V. Bienkiron.
Branscomb	Mendocino	2,000	9	61.8	− 4.6	93	14	38	4†	42	0.10	− 0.03	0.10	0.0	0	30	1	0	n.	A. J. Haun.
Brawley	Imperial	−105	....	89.4		115	1	61	28	43	0.34		0.34	0.0	1	21	9	1	se.	U. S. Weather Bureau.
Brush Creek	Butte	2,140	5	69.2	− 4.1	104	12	40	6	52	T.	0.00	T.	0.0	0	29	2	0	s.	Cal. Gas & Electric Co.
Calexico	Imperial	0	4	90.3		111	1	68	8	36	0.00		0.00	0.0	0	27	0	4	se.	J. E. Peck.
Caliente *	Kern	1,290	33																	Agent, So. Pac. Co.
Calistoga *	Napa	363	37	69.9	− 2.7	100	12	50	1†	....	0.00	− 0.02	0.00	0.0	0	31	0	0	.....	Do.
Campbell	Santa Clara	217	12	62.0	− 2.9	95	12	40	4†	47	0.00	0.00	0.00	0.0	0	31	0	0	nw.	F. M. Righter.
Camptonville (near)	Yuba	3,500	2	75.0		104	13†	42	6	46	0.00		0.00	0.0	0	30	0	1	w.	S. B. Johnson.
Cedarville	Modoc	4,675	15	65.7	− 3.5	95	2†	35	6	49	0.09	− 0.21	0.07	0.0	2	23	8	0	sw.	T. H. Johnston.
Chico	Butte	189	39	77.8	− 6.1	105	12	50	18	47	0.00	− 0.04	0.00	0.0	0	29	2	0	s.	Agent, Butte R. R. Co.
Chino *	San Bernardino	714	17	76.8	− 0.3	101	1	60	12†	....	0.00	− 0.04	0.00	0.0	0	29	1	1	w.	Agent, So. Pac. Co.
Cisco *	Placer	5,939	38	70.0	+ 6.8	95	12	38	5	....	0.00	− 0.03	0.00	0.0	0	31	0	0	.....	Do.
Claremont	Los Angeles	1,200	17	73.0	+ 1.4	98	1	50	15†	44	0.11	+ 0.09	0.10	0.0	2	24	6	1	.....	F. P. Brackett.
Cloverdale	Sonoma	340	7	71.2	− 1.1	105	11	42	19	50	0.00	− 0.01	0.00	0.0	0	31	0	0	n.	Lloyd Browne.
Colfax	Placer	2,421	38	75.1	− 0.2	100	13†	50	5	35	0.00	− 0.03	0.00	0.0	0	30	0	1	.....	Agent, So. Pac. Co.
Colusa	Colusa	60	6	75.1	− 1.6	103	12	53	19	36	0.00	0.00	0.00	0.0	0	....	....	....	.....	W. K. De Jarnatt.
Corning *	Tehama	277	23	85.9	+ 2.5	103	12	65	5†	....	0.00	0.00	0.00	0.0	0	27	3	1	s.	Agent, So. Pac. Co.
Cuyamaca (1)	San Diego	4,677	10	72.2	+ 7.2	91	2	48	27	29	0.16	− 0.21	0.13	0.0	2	25	4	2	e.	L. L. Macguarie.
Daunt	Tulare	4,000	2	69.2		94	12	41	6	37	0.00		0.00	0.0	0	31	0	0	.....	D. L. Wishon.
Davisville	Yolo	51	37	72.2	− 5.7	104	12	46	26	50	0.00	− 0.02	0.00	0.0	0	29	2	0	sw.	S. H. Beckett.
Deer Creek	Nevada	3,700	2	63.4		91	13	32	7	45	0.00		0.00	0.0	0	29	2	0	.....	Cal. Gas & Electric Co.
Delta	Shasta	1,138	24	74.4	− 4.5	106	14	45	6	47	0.25	+ 0.12	0.15	0.0	2	18	12	1	s.	Agent, So. Pac. Co.
Denair	Stanislaus	126	9	69.8	− 6.3	103	12†	40	17	57	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Agent, Santa Fe R.R.
Dobbins	Yuba	1,650	5	75.9	− 5.1	104	11	48	6	40	0.00	0.00	0.00	0.0	0	31	1	0	.....	Bishop & Taylor.
Dudleys	Mariposa	3,000	....	64.4		94	14	34	6	49	0.00		0.00	0.0	0	30	1	0	nw.	W. H. Dudley.
Dunnigan *	Yolo	65	32	86.0	+ 4.2	105	12	74	19	....	0.00	0.00	0.00	0.0	0	31	0	0	n.	Agent, So. Pac. Co.
Dunsmuir *	Siskiyou	2,285	20	73.3	+ 3.8	97	15†	52	5	....	0.12	− 0.14	0.12	0.0	1	30	0	1	n.	Do.
Durham	Butte	160	14	75.8	− 3.6	106	12	49	20	46	0.00	− 0.05	0.00	0.0	0	29	1	1	s.	R. W. Durham.
El Cajon	San Diego	482	10	70.8	− 0.5	96	1	47	4†	47	0.00	− 0.10	0.00	0.0	0	31	0	0	sw.	H. H. Kessler.
Electra	Amador	725	5	78.8		110	12	53	2†	50	0.00	0.00	0.00	0.0	0	31	0	0	.....	Cal. Gas & Electric Co.
Elsinore	Riverside	1,234	14	75.7	− 2.7	107	1	47	7	50	0.00	− 0.02	0.00	0.0	0	30	1	0	w.	W. H. Bahannon.
Emigrant Gap	Placer	5,230	35	60.8	− 6.7	73	11	36	4	30	0.00	− 0.03	0.00	0.0	0	27	3	1	sw.	Agent, So. Pac. Co.
Escondido	San Diego	657	15	71.2	− 1.3	100	1	49	7†	42	0.00	0.00	0.00	0.0	0	14	17	0	w.	A. R. Moon.
Eureka	Humboldt	64	23	55.6	+ 0.3	63	10	49	18	11	0.55	+ 0.44	0.45	0.0	6	1	23	7	nw.	U. S. Weather Bureau.
Farmington *	San Joaquin	111	30	80.4	+ 2.2	102	12	59	5	....	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Agent, So. Pac. Co.
Folsom	Sacramento	252	37	77.2	− 4.7	108	12	50	6	50	0.00	− 0.01	0.00	0.0	0	30	0	1	s.	F. O. Hutton.
Fordyce Dam	Nevada	6 500	14	57.4		80	12†	35	7†	35	0.00	− 0.20	0.00	0.0	0	30	1	0	sw.	E. E. Roening.
Fouts Springs	Colusa	1,650	5	68.6		98	12	40	5	46	0.00	− 0.28	0.00	0.0	0	....	....	....	.....	H. S. Green.
Fresno	Fresno	293	22	79.3	− 2.7	107	13	54	6	41	0.00	0.00	0.00	0.0	0	31	0	0	w.	U. W. Weather Bureau.
Fruto *	Glenn	624	20	80.6	− 1.9	106	12	60	19	....	0.00	0.00	0.00	0.0	0	31	0	0	s.	Agent, So. Pac. Co.
Galt *	Sacramento	49	31																	Do.
Georgetown	El Dorado	2,650	36																	C. M. Fitzgerald.
Gilroy *	Santa Clara	193	35	70.5	+ 1.7	100	20	55	19†	....	0.00	0.00	0.00	0.0	0	31	0	0	n.	Agent, So. Pac. Co.
Gold Run	Placer	3,222	10	73.9	− 1.1	96	15†	43	5	32	0.00	0.00	0.00	0.0	0	30	0	1	.....	Do.
Gonzales *	Monterey	127	10	57.0	− 2.9	90	12	38	27	....	0.00	0.00	0.00	0.0	0	31	0	0	n.	Do.
Grass Valley	Nevada	2,690	37	69.8		94	13	43‖	5†	39	0.00	− 0.04	0.00	0.0	0	31	0	0	sw.	F. R. Hull.
Greenville	Plumas	3,600	15	62.8	− 2.6	96	12	30	4	57	0.00	− 0.20	0.00	0.0	0	29	2	0	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	....	70.8		94	13	39	6	37	0.00		0.00	0.0	0	31	0	0	.....	H. S. Richardson.
Guinda *	Yolo	350	11	77.4	− 7.2	105	13	60	6	....	0.00	− 0.02	0.00	0.0	0	31	0	0	n.	Agent, So. Pac. Co.
Hanford	Kings	249	9	80.8	+ 2.3	107	14†	50	15	56	0.00	0.00	0.00	0.0	0	31	0	0	.....	Agent, Santa Fe R.R.
Healdsburg	Sonoma	110	16	70.2	+ 3.4	106	12	40	1	56	0.00	− 0.07	0.00	0.0	0	22	5	4	n.	C. A. Menetee.
Heber	Imperial	−20	3	90.9		116	1	61	28	45	T.		T.	0.0	0	27	2	2	se.	E. F. Chumard.
Helen Mine	Lake	2,750	8	72.5		92	18	58	1	....	0.00	− 0.01	0.00	0.0	0	31	0	0	w.	A. Rocca.
Hollister	San Benito	284	35	63.8	− 3.4	92	11	42	17†	48	0.00	− 0.01	0.00	0.0	0	31	0	0	w.	J. N. Thompson.
Hornbrook *	Siskiyou	2,154	21	60.6	−14.7	102	17†	40	5†	....	0.00	− 0.25	0.00	0.0	0	26	0	5	.....	Agent, So. Pac. Co.
Hot Springs	Tulare	3,300	2	73.6		97	13†	44	6	40	0.00		0.00	0.0	0	31	0	0	.....	U. S. Forest Service.
Hullville (near)	Lake	2,250	2	65.0		100	12	34	1†	57	T.		T.	0.0	0	23	7	1	nw.	S. J. Smith.
Idyllwild	Riverside	5,250	8	67.0	+ 0.5	91	2	38	27	49	1.00	+ 0.86	0.90	0.0	2	25	6	0	sw.	R. D. Fobes.
Independence	Inyo	3,907	13	76.6	− 1.9	102	12	51	6	40	0.00	− 0.00	0.00	0.0	0	28	3	0	.....	U. S. Weather Bureau.
Indio	Riverside	−20	31	91.6	− 2.9	116	1	65	7	37	0.00	0.00	0.00	0.0	0	26	5	0	se.	F. N. Johnson.
Inskip	Butte	4,975	2	60.0		86	12†	32	6	40	T.		T.	0.0	0	25	5	1	.....	Cal. Gas & Electric Co.
Ione *	Amador	287	31	71.3	− 7.3	105	14	58	6	....	0.00	0.00	0.00	0.0	0	31	0	0	sw.	Agent, So. Pac. Co.
Iowa Hill	Placer	2,825	28	72.7	− 2.5	96	12	44	6	41	0.00	− 0.05	0.00	0.0	0	29	1	1	sw.	C. F. Macy.
Jamestown	Tuolumne	1,471	6	71.8	− 3.0	100	12†	43	6	45	0.00	0.00	0.00	0.0	0	31	0	0	.....	Agent Sierra R. R.
King City	Monterey	333	22	74.8	+ 7.8	97	12	55	3	34	0.00	0.00	0.00	0.0	0	31	0	0	n.	Agent, So. Pac. Co.
La Porte	Plumas	5,000	15	60.0	− 2.5	88	12	32	6	39	0.00	− 0.25	0.00	0.0	0	27	3	1	w.	C. W. Hendel.
Le Grand	Merced	255	9	78.4	0.0	106	12†	51	4†	53	0.00	0.00	0.00	0.0	0	31	0	0	.....	Agent, Santa Fe R.R.
Lemon Cove	Tulare	600	14	73.3	−10.0	108	12	36	6	60	0.00	− 0.01	0.00	0.0	0	31	0	0	w.	G. W. Sandidge.
Lick Observatory	Santa Clara	4,209	20	65.7	− 3.7	83	12†	36	5	20	0.00	0.00	0.00	0.0	0	31	0	0	n.	The Director.
Livermore	Alameda	485	38	68.8	− 1.3	104	12	41	7	50	0.00	− 0.01	0.00	0.0	0	31	0	0	sw.	E. G. Still.
Lodi	San Joaquin	45	27	71.8	− 1.9	101	12	46	19	44	0.00	0.00	0.00	0.0	0	31	0	0	w.	Ezra Fiske.
Lone Pine	Inyo	2,728	4	73.8		99	1†	45	26†	48	0.00		0.00	0.0	0	30	1	0	s.	G. F. Marsh.
Long Valley	Lassen					97	2	35	6	48	0.00		0.00	0.0	0	27	4	0	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	32	67.7	+ 0.3	89	1	53	29	26	0.00	− 0.02	0.00	0.0	0	20	11	0	sw.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1909. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Cont'd.																				
Los Banos *	Merced	121	22	76.0	− 5.5	99	12	60	4†	....	0.00	− 0.01	0.00	0.0	0	31	0	0	w.	Agent, So. Pac. Co.
Los Gatos	Santa Clara	600	22	66.5	− 1.2	100	12	45	4†	45	0.00	0.00	0.00	0.0	0	31	0	0	n.	F. H. McCullagh.
Macdoel	Siskiyou	4,258	2	58.6	.....	91	2†	29	18	52	0.42	.....	0.42	0.0	1	22	8	1	nw.	Robert Miller.
Madeline	Lassen	5,270	....	59.4	.....	94	14	28	29	58	0.08	.....	0.08	0.0	1	25	5	1	w.	J. H. Williams.
Magalia	Butte	2,321	5	68.4	− 6.3	102	12	41	20	53	T.	0.00	T.	0.0	0	30	1	0	n.	Agent, Butte R. R. Co.
Mammoth Tank	Imperial	257	31	94.0	− 4.5	117	1	72	6	41	0.00	− 0.06	0.00	0.0	0	26	2	3	e.	Agent, So. Pac. Co.
Marysville	Yuba	67	38	73.8	− 6.2	101	15	42	2	52	0.00	0.00	0.00	0.0	0	31	0	0	n.	Do.
Mecca	Riverside	−185	3	88.8	.....	110	21	60	27	39	0.00	.....	0.00	0.0	0	31	0	0	se.	A. Lunsted.
Menlo Park*	San Mateo	64	31	68.2	+ 0.5	90	12†	52	8†	....	0.00	− 0.01	0.00	0.0	0	29	0	2	nw.	Agent, So. Pac. Co.
Merced	Merced	173	35	77.2	− 4.5	105	10†	50	5	41	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	Agent, Santa Fe R. R.
Mill Creek (1)	Amador	.....	2	70.1	.....	90	12†	42	6	38	0.00	.....	0.00	0.0	0	31	0	0	w.	Cal. Gas P Electric Co.
Milton (near)	Calaveras	660	19	76.2	− 2.4	103	12	52	6	44	0.00	0.00	0.00	0.0	0	27	4	0	nw.	J. H. Southwick.
Modesto *	Stanislaus	90	37	.....	.....	.....	.....	.....	.....	.....	0.00	− 0.01	0.00	0.0	0	31	0	0	.....	Agent, So. Pac. Co.
Mojave	Kern	2,731	32	78.1	− 7.6	104	24	51	29	46	0.00	− 0.08	0.00	0.0	0	30	0	1	.....	Do.
Mokelumne Hill	Calaveras	1,550	16	74.3	− 1.5	99	12	50	5†	30	0.00	0.00	0.00	0.0	0	31	0	0	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	55	66.2	.....	92	1	40	7	38	0.00	0.00	0.00	0.0	0	31	0	0	w.	H. Lathrop.
Montague	Siskiyou	2,450	21	68.2	−11.2	97	2†	40	5†	54	1.12	+ 1.05	1.12	0.0	1	20	6	5	n.	G. H. Chambers.
Monterey *	Monterey	15	44	59.6	− 1.4	68	13†	52	1†	....	0.00	0.00	0.00	0.0	0	31	0	0	e.	Agent, So. Pac. Co.
Monterio	Kern	4,560	10	74.9	− 2.2	98	2†	44	4†	36	0.00	− 0.08	0.00	0.0	0	31	0	0	nw.	John C. Knecht.
Monumental	Del Norte	.....	4	59.8	.....	89	14	36	6	44	1.60	.....	1.10	0.0	4	20	6	5	.....	G. F. Morgan.
Mount Tamalpais	Marin	2,375	10	67.6	.....	92	12	43	5	23	0.00	− 0.01	0.00	0.0	0	29	2	0	nw.	U. S. Weather Bureau.
Napa City	Napa	20	32	64.6	− 1.2	91	20	43	3	41	0.00	− 0.01	0.00	0.0	0	30	1	0	s.	Thomas Hull.
Napa (S. H.)	.....do.	60	31	66.6	+ 0.8	97	12	49	1†	41	0.00	− 0.01	0.00	0.0	0	30	1	0	sw.	W. H. Martin.
Needles	San Bernardino	477	17	89.5	− 4.9	115	1	60	10	43	1.40	+ 0.98	1.40	0.0	1	24	5	2	s.	Agent, Santa Fe R. R.
Nevada City	Nevada	2,580	17	67.5	− 1.1	97	30	36	6	50	T.	− 0.03	T.	0.0	0	30	1	0	sw.	S. W. Marsh.
Newcastle	Placer	970	16	75.6	− 4.6	106	12	51	9	47	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	George D. Kellogg.
Newhall *	Los Angeles	1,200	32	72.6	− 4.0	108	.....	60	5†	....	0.00	0.00	0.00	0.0	0	28	1	2	se.	Agent, So. Pac. Co.
Newman	Stanislaus	91	20	75.0	− 9.6	102	13†	48	6	43	0.00	− 0.01	0.00	0.0	0	31	0	0	n.	E. S. Wangenheim.
Nimshew	Butte	2,500	5	70.0	.....	99	12	41	6	43	0.00	0.00	0.00	0.0	0	27	2	2	.....	Cal. Gas & Electric Co.
North Bloomfield	Nevada	3,200	12	70.7	.....	96	17	40	2	.....	0.00	.....	.....	.....	.....	.....	.....	.....	.....	W. G. Shand.
North Fork	Madera	3,000	5	69.9	.....	102	18	31	6	60	0.00	.....	0.00	0.0	0	27	4	0	w.	C. H. Shinn.
Oakdale *	Stanislaus	156	15	76.5	− 3.2	103	12†	53	6	....	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Agent, So. Pac. Co.
Oakland	Alameda	36	33	63.8	+ 2.0	86	12	51	4	29	T.	− 0.02	T.	0.0	0	14	14	3	w.	Chabot Observatory.
Ojai Valley	Ventura	900	3	68.7	.....	100	1	44	7†	47	0.00	.....	0.00	0.0	0	29	1	1	w.	W. H. Duncan.
Orland	Glenn	254	27	79.3	− 7.1	107	12†	53	5	44	0.00	− 0.02	0.00	0.0	0	29	2	0	se.	W. W. Patch.
Orleans	Humboldt	520	6	74.8	− 5.9	105	14†	48	4	52	0.42	+ 0.17	0.42	0.0	1	26	4	1	.....	Fred T. Hale.
Oroville (near)	Butte	250	25	78.1	− 3.2	110	11	52	4	43	0.00	− 0.03	0.00	0.0	0	27	4	0	nw.	E. D. Fairchild.
Palermo	.....do.	213	18	76.6	− 2.3	108	12	49	6	48	0.00	− 0.04	0.00	0.0	0	29	2	0	s.	Miss Hettie Bealt.
Palm Springs *	Riverside	584	20	91.3	− 6.4	112	1†	70	26	....	0.00	− 0.03	0.00	0.0	0	30	0	1	w.	Agent, So. Pac. Co.
Pasadena	Los Angeles	827	19	71.1	− 0.3	98	1	47	29	44	0.12	+ 0.12	0.12	0.0	1	27	3	1	sw.	E. R. Sorver.
Paso Robles *	San Luis Obispo	800	22	68.8	− 3.7	103	25	36	18	56	0.00	0.00	0.00	0.0	0	30	1	0	nw.	Dr. F. W. Sawyer.
Peachland	Sonoma	190	13	65.7	− 0.3	101	15	38	4	59	0.00	− 0.01	0.00	0.0	0	30	1	0	sw.	E. H. Parnell.
Penstock Camp	Tuolumne	3,750	2	75.0	.....	96	1†	41	5	45	0.00	.....	0.00	0.0	0	24	7	0	w.	Tuolumne W. P. Co.
Pine Crest	Santa Barbara	1,000	11	65.2	− 2.6	86	1	49	30	28	0.00	− 0.05	0.00	0.0	0	28	3	0	sw.	Dr. C. M. Richter.
Placerville	El Dorado	1,875	20	69.0	− 3.7	98	12	40	7	44	0.00	− 0.02	0.00	0.0	0	31	0	0	w.	A. Baring-Gould.
Point Lobos	San Francisco	250	16	57.2	+ 1.2	80	1	49	3†	28	0.00	− 0.01	0.00	0.0	0	5	21	5	nw.	John Hyslop.
Point Reyes	Marin	490	17	51.9	.....	61	20	44	26	14	0.00	.....	0.00	0.0	0	12	9	10	nw.	U. S. Weather Bureau.
Porterville	Tulare	464	20	77.9	−10.2	106	13	48	6	41	0.00	− 0.06	0.00	0.0	0	31	0	0	.....	Harry E. Cowie.
Poway	San Diego	460	25	71.9	+ 3.0	102	1	51	30	43	0.00	0.00	0.00	0.0	0	29	2	0	w.	Adams Chapin.
Quincy	Plumas	3,400	14	62.2	− 3.7	93	12†	32	6	52	T.	− 0.08	T.	0.0	0	29	2	0	sw.	L. A. Barrett.
Red Bluff	Tehama	307	32	79.6	− 2.5	106	13	57	6	39	T.	− 0.03	T.	0.0	0	28	2	1	se.	U. S. Weather Bureau.
Redding	Shasta	552	34	79.2	− 3.1	103	12†	57	5†	36	0.00	− 0.09	0.00	0.0	0	29	2	0	n.	L. F. Bassett.
Redlands	San Bernardino	1,352	16	74.9	− 3.4	102	1	51	28	44	T.	− 0.04	T.	0.0	0	26	4	1	w.	Paul W. Moore.
Reedley	Fresno	347	9	79.1	− 3.1	107	13	52	6	45	0.00	0.00	0.00	0.0	0	31	0	0	n.	Agent, Santa Fe R. R.
Rialto (near)	San Bernardino	2,250	3	74.0	.....	98	1†	53	7†	32	0.25	.....	0.25	0.0	1	22	9	0	se.	Edison Electric Co.
Riverside	Riverside	851	27	74.0	− 2.3	104	1	51	15†	42	0.00	− 0.02	0.00	0.0	0	23	8	0	w.	C. W. Barton.
Rocklin	Placer	249	38	74.0	− 6.0	105	12	47	6	49	0.00	− 0.03	0.00	0.0	0	31	0	0	s.	Agent, So. Pac. Co.
Rohnerville	Humboldt	75	6	59.0	.....	70	9†	43	1	23	0.22	.....	0.22	0.0	1	19	9	3	n.	Dr. R. Calnham.
Sacramento (1)	Sacramento	71	32	71.9	− 0.6	101	12	52	19	39	0.00	0.00	0.00	0.0	0	31	0	0	s.	U. S. Weather Bureau.
Sacramento (2)	.....do.	35	56	69.9	− 3.7	95	12	50	6	36	0.00	− 0.03	0.00	0.0	0	30	1	0	s.	S. H. Gerrish.
St. Helena	Napa	255	1	68.9	.....	106	12	41	6	52	0.00	.....	0	0.0	0	31	0	0	.....	B. F. Kettlewell.
Salinas	Monterey	40	35	59.6	− 3.1	75	7	42	27	26	0.00	0.00	0.00	0.0	0	21	10	0	w.	Miss E. Ruth Abbott.
San Bernardino	San Bernardino	1,054	17	75.4	+ 0.4	105	1	47	8	52	0.00	− 0.04	0.00	0.0	0	20	11	0	sw.	D. A. K. Johnson.
San Diego	San Diego	93	38	65.1	− 1.8	79	1	58	7	16	T.	− 0.01	T.	0.0	0	18	10	3	sw.	U. S. Weather Bureau.
San Francisco	San Francisco	207	38	57.8	+ 0.5	77	12	49	2	24	T.	− 0.02	T.	0.0	0	23	5	3	w.	Do.
San Jacinto	Riverside	1,550	16	76.4	+ 0.2	104	1†	47	6†	51	0.18	+ 0.10	0.18	0.0	1	29	2	0	.....	E. T. Tanner.
San Jose	Santa Clara	95	34	63.8	− 3.1	95	12	43	4	44	0.00	0.00	0.00	0.0	0	31	0	0	nw.	U. S. Weather Bureau.
San Leandro	Alameda	48	14	62.4	− 1.7	86	12	47	18	33	T.	− 0.01	T.	0.0	0	25	5	1	w.	Dr J. E. Childs.
San Luis Obispo	San Luis Obispo	201	14	62.2	− 1.0	92	11	44	4	39	0.00	0.00	0.00	0.0	0	24	6	1	nw.	U. S. Weather Bureau.
San Mateo*	San Mateo	22	35	68.4	+ 3.0	86	12	58	8	....	0.00	0.00	0.00	0.0	0	30	0	1	nw.	Agent, So. Pac. Co.
San Miguel*	San Luis Obispo	616	22	76.5	+ 1.5	99	12	51	31	....	0.00	0.00	0.00	0.0	0	25	6	0	.....	Do.
Sanger*	Fresno	371	20	78.9	− 9.0	110	12†	63	29	....	0.00	0.00	0.00	0.0	0	31	0	0	.....	Do.
Santa Barbara	Santa Barbara	130	25	63.4	− 1.7	83	1	50	4†	24	T.	− 0.02	T.	0.0	0	17	14	0	.....	George W. Russell.
Santa Clara	Santa Clara	90	20	64.0	+ 1.0	98	12	40	18†	49	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Santa Clara College.
Santa Cruz	Santa Cruz	20	36	59.8	− 4.1	83	6†	40	20	40	0.00	− 0.01	0.00	0.0	0	31	0	0	n.	W. R. Springer.
Santa Margarita*	San Louis Obispo	996	20	.....	.....	.....	.....	.....	.....	.....	0.00	− 0.02	0.00	0.0	0	28	2	1	n.	Agent, So. Pac. Co.
Santa Maria	Santa Barbara	220	21	65.8	+ 1.4	82	1	50	7	30	0.00	− 0.02	0.00	0.0	0	15	16	0	w.	L. E. Blochman.
Santa Monica	Los Angeles	110	24	61.4	− 8.5	77	14	51	28	19	0.00	0.00	0.00	0.0	0	12	12	7	w.	N. D. Ingham.
Santa Rosa	Sonoma	181	20	65.6	− 1.6	97	12	42	1†	47	0.00	− 0.09	0.00	0.0	0	29	2	0	sw.	M. L. McDonald, jr.
Selma*	Fresno	311	23	82.8	− 2.6	102	13	69	6†	....	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Agent, So. Pac. Co.
Shasta	Shasta	1,049	13	78.5	− 3.2	105	20	50	8†	53	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	Dr. T. J. Edecomb.
Sierra Madre	Los Angeles	1,400	12	71.5	− 0.7	96	1	53	15†	35	0.02	+ 0.01	0.02	0.0	1	29	2	0	s.	Miss A. Carter.
Sisson	Siskiyou	3,555	20	62.3	− 7.4	88	14	34	1	42	0.19	+ 0.14	0.11	0.0	2	25	3	3	n.	Agent, So. Pac. Co.
Soledad*	Monterey	188	35	75.6	+ 9.5	84	3†	68	19	....	0.00	0.00	0.00	0.0	0	31	0	0	ne.	Do.
S. E. Farallon	San Francisco	30	6	52.5	.....	60	5	48	14	7	0.00	0.00	0.00	0.0	0	12	11	8	nw.	U. S. Weather Bureau.
Sonora	Tuolumne	1,825	21	74.0	.....	98	12	46	6	38	0.00	− 0.02	0.00	0.0	0	31	0	0	w.	Charles P. Jones.
Stirling City	Butte	3,525	5	67.4	.....	92	13†	44	27	42	0.00	0.00	0.00	0.0	0	31	0	0	se.	Butte Co. R. R., Agent.
Stockton (1)	San Joaquin	23	38	73.0	+ 0.4	100	12	52	6	40	0.00	− 0.02	0.00	0.0	0	31	0	0	nw.	State Hospital.
Storey	Madera	296	9	76.5	− 1.3	109	13	48	6	57	0.00	0.00	0.00	0.0	0	31	0	0	nw.	Agent, Santa Fe R. R.
Suisun*	Solana	20	29	76.6	+ 5.5	100	11	63	5	....	0.00	− 0.04	0.00	0.0	0	31	0	0	sw.	Agent, So. Pac. Co.
Summerdale	Mariposa	5,270	13	66.4	− 2.1	88	1†	38	6	33	0.00	− 0.03	0.00	0.0	0	28	3	0	sw.	J. H. Lowry.
Summit	Placer	7,017	36	58.8	− 2.2	83	13	28	6	47	0.00	− 0.20	0.00	0.0	0	30	1	0	sw.	Agent, So. Pac. Co.
Susanville	Lassen	4,175	20	63.8	− 8.0	91	2	34	6	44	T.	− 0.12	T.	0.0	0	25	5	1	w.	J. Branham.
Tamarack	Alpine	8,000	3	55.3	.....	86	16	26	6	46	0.00	.....	0.00	0.0	0	31	0	0	sw.	William Bennett.
Tehachapi*	Kern	3,964	32	74.5	− 1.9	89	23	50	5	....	0.00	− 0.01	0.00	0.0	0	.....	.....	.....	.....	Agent, So. Pac. Co.
Tehama*	Tehama	220	38	81.5	− 2.6	105	12	62	7	....	0.00	− 0.08	0.00	0.0	0	27	3	1	s.	Do.
Towle	Placer	3,704	23	64.4	− 6.7	92	12	26	6	49	0.00	− 0.11	0.00	0.0	0	29	2	0	.....	Do.

TABLE 1.—*Climatological data for July, 1909. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Cont'd.																				
Tracy*	San Joaquin	64	29	74.2	− 5.7	99	13	60	2	....	0.00	− 0.01	0.00	0.0	0	31	0	0	nw.	Agent, So. Pac. Co.
Tulare (near)	Tulare	274	15	76.2	− 6.8	101	13	52	7	38	0.00	− 0.02	0.00	0.0	0	31	0	0	w.	J. T. Bearass.
Ukiah	Mendocino	620	16	68.9	− 4.5	102	14	41	19	50	0.04	+ 0.01	0.04	0.0	1	29	2	0	nw.	Dr. George McCowen.
Upland	San Bernardino	1,750	12	73.2	+ 0.1	98	1	50	6†	39	0.05	+ 0.04	0.05	0.0	1	29	2	0	w.	A. P. Harwood.
Upper Lake	Lake	1,350	24	72.4	− 0.7	102	14	48	6	46	0.00	− 0.03	0.00	0.0	0	31	0	0	nw.	C. M. Hammond.
Vacaville	Solano	175	21	72.4	− 4.0	105	12	46	6	50	0.00	0.00	0.00	0.0	0	29	2	0	sw.	G. O. Coburn.
Valley Springs*	Calaveras	673	20	76.8	− 4.2	104	13	62	6†	...	0.00	− 0.03	0.00	0.0	0	30	1	0	nw.	Agent, So. Pac. Co.
Visalia	Tulare	334	21	79.6	− 1.5	100	24	58	5	33	0.00	− 0.03	0.00	0.0	0	31	0	0	w.	Agent, Santa Fe R. R.
Warner Springs	San Diego	3,165	1	71.1	.....	94	1†	42	5	38	1.26	.....	1.00	0.0	3	26	5	0	.....	Mrs. F. S. Stanford.
Wasco	Kern	336	9	78.6	− 3.3	107	14	50	7†	48	0.00	0.00	0.00	0.0	0	31	0	0	.....	Agent, Santa Fe R. R.
Watsonville	Santa Cruz	23	13	57.0	− 6.3	75	6†	43	17†	30	0.00	0.00	0.00	0.0	0	10	21	0	w.	Spreckles Sugar Co.
Westley*	Stanislaus	90	20	85.7	+ 2.6	103	12	67	7	...	0.00	− 0.03	0.00	0.0	0	31	0	0	n.	Agent, So. Pac. Co.
Wheatland	Yuba	84	22	74.4	− 2.8	100	12†	49	6	40	0.00	− 0.01	0.00	0.0	0	31	0	0	sw.	Wm. Lumbard.
Willows	Glenn	136	30	75.4	− 7.5	105	12	52	19	39	0.00	0.00	0.00	0.0	0	31	0	0	s.	M. T. Harrington, jr.
Yosemite	Mariposa	3,945	5	67.6	.....	98	13	35	5	56	0.00	.....	0.00	0.0	0	31	0	0	sw.	C. W. Tucker.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
* * Precipitation included in that of the next measurement.
† Also on other dates.
§ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ ‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 11, California.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon.																																	
Klamath Agency	Klamath					.25	.10																										0.35
Klamath Falls	do					.32																											0.32
Lakeview	Pitt									.05																							0.05
Long Valley	Pitt					T.	T.		T.																		T.						T.
Merrill	Interior				.27					T.																							0.27
Yonna	Interior					.18	.16			T.																	.17						0.51
California.																																	
Aguanga	Coast																							.15									0.15
Alturas	Sacramento					.08	.02																										0.10
Anderson	do					.01																											0.01
Angels Camp	San Joaquin																																0.00
Angiola	do																																0.00
Antioch	do																																0.00
Aptos	Coast																																0.00
Arrowhead Springs	do																								T.								T.
Auburn	Sacramento																																0.00
Azusa	Coast																									.06							0.06
Bagdad	Desert																																0.00
Bakersfield	San Joaquin																																0.00
Barstow	Desert																						T.			T.							T.
Bear River	San Joaquin																																0.00
Bear Valley (1)	Sacramento																																0.00
Bear Valley (2)	San Joaquin																																0.00
Beckwith	Sacramento																									T.	.02						0.02
Ben Lomond	Coast																																0.00
Berkeley	do																																0.00
Big Bar	Sacramento																																
Biggs	do																																0.00
Bishop	Owens																																
Blocksburg	Coast					.43																											0.43
Blue Canon	Sacramento																																0.00
Blythe	Colorado																																0.00
Boulder Creek	Coast																																0.00
Bowmans Dam	Sacramento																																0.00
Brascomb	Coast					.10																											0.10
Brawley	Desert		T.																						.34								0.34
Brush Creek	Sacramento					T.																											T.
Butte Valley	do																																0.00
Calexico	Desert																																0.00
Caliente	San Joaquin																																
Calistoga	Coast																																0.00
Campbell	do																																0.00
Campo	do																																0.00
Camptonville (near)	Sacramento																																0.00
Cedarville	Mountain Lakes					.07				.02																	T.						0.09
Chico	Sacramento																																0.00
Chico (near)	do																																0.00
China Flat	Coast					T.																											T.
Chino	do																																0.00
Cisco	Sacramento																																0.00
Claremont	Coast																									.10	.01						0.11
Clear Lake	Klamath						.02																										0.02
Cloverdale	Coast																																0.00
Colfax	Sacramento																																0.00
Colgate	do																																0.00
Colusa	do																																0.00
Corning	do																																0.00
Corona	Coast																																0.00
Crescent City	do																																
Crockers	San Joaquin																																0.00
Cuyamaca (1)	Coast																						.03	.13									0.16
Cuyamaca (2)	do																						.03	.14									0.17
Daunt	San Joaquin																																0.00
Davisville	Sacramento																																0.00
Deer Creek	do																																0.00
Delta	do					0.15	0.10																										0.25
Denair	San Joaquin																																0.00
Descanso	Coast																																0.00
Dinuba	San Joaquin																																
Dobbins	Sacramento																																0.00
Downieville	do																																0.00
Dudleys	San Joaquin																																0.00
Dunnigan	Sacramento																																0.00
Dunsmuir	do						.12																										0.12
Durham	do																																0.00
Dyerville	Coast					.19																											0.19
Edgewood	Klamath					.52	.24																										0.76
Edison	San Joaquin																																0.00
El Cajon	Coast																																0.00
Electra	San Joaquin																																0.00
Elsinore	Coast																																0.00
Emigrant Gap	Sacramento																																0.00
Escondido	Coast																																0.00
Eureka	do				.41	.04	.02		.01	.01										T.						T.	.06						0.55
Fairmont	do																								T.								T.
Farmington	San Joaquin																																0.00
Felton	Coast																																0.00
Firebaugh	San Joaquin																																0.00
Folsom	Sacramento																																0.00
Fordyce Dam	do																																0.00
Fort Bragg	Coast																																0.00
Fort Ross	do																																
Fouts Springs	Sacramento																																0.00
Fresno	San Joaquin																																0.00
Fruto	Sacramento																																0.00
Galt	San Joaquin																																
Georgetown	do																																
Gilroy	Coast																																0.00
Glendora	do																																
Glen Ranch	do																										.13						0.13
Glenwood	do																																0.00
Gold Run	Sacramento																																0.00
Gonzales	Coast																																0.00
Grass Valley	Sacramento																																0.00
Greenville	do																																0.00

TABLE 2.—*Daily precipitation for July, 1909. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																															
Gridley	San Joaquin																														0.00
Groveland	do																														0.00
Guinda	Sacramento																														0.00
Hanford	San Joaquin																														0.00
Head Dam	Sacramento																														0.00
Healdsburg	Coast																														0.00
Heber	Desert																								T.						T.
Helen Mine	Coast																														0.00
Hollister	do																														0.00
Hornbrook	Klamath																														0.00
Hot Springs	San Joaquin																														0.00
Hullville (near)	Coast					T.																									T.
Idyllwild	do																						0.10		0.90						1.00
Independence	Owens																														0.00
Indio	Desert																														0.00
Inskip	Sacramento					T.																									T.
Ione	San Joaquin																														0.00
Iowa Hill	Sasramento																														0.00
Isabelle	San Joaquin																														0.00
Jacksonville	do																														0.00
Jamestown	do																														0.00
Jenny Lind	do																														0.00
Jolon	Coast																														1.45
Julian	do																														0.00
Kennedy's Mine	San Joaquin						T.																								T.
Kennett	Sacramento																														
Kentfield	Coast																														0.00
Kernville	San Joaquin																														0.00
King City	Coast																														0.00
Knights Landing	Sacramento			.01	.04																										0.65
Knob	do																														0.00
La Grange	San Joaquin																														0.00
Lakeside	Coast																														0.00
La Porte	Sacramento																														0.00
Lathrop	San Joaquin																														0.00
Laurel	Coast																														0.00
Laytonville	do																														0.00
Le Grand	San Joaquin																														0.00
Lemon Cove	do																														0.00
Lick Observatory	Coast																														0.00
Livermore	do																														0.00
Lodi	San Joaquin																														0.00
Lone Pine	Owens																														
Long Camp	San Joaquin																														0.00
Long Valley	Mountain Lakes																														
Lordsburg	Coast																														0.00
Los Alamos	do																														0.00
Los Angeles	do																														0.00
Los Banos	San Joaquin																														0.00
Los Gatos	Coast																														0.00
Los Vaqueros	do																														0.00
Lowe Observatory	do																									T.					T.
Lyonsville	Sacramento																														
Lytle Creek	Coast																								.35						0.35
Macdoel	Klamath					.42	T.			T.										T.											0.42
Madeline	Mountain Lakes					T.				0.08																		T.			0.08
Magalia	Sacramento					T.																									T.
Mammoth Tank	Desert																														0.00
Mariposa	San Joaquin																														
Marysville	Sacramento																														0.00
Mecca	Desert																														0.00
Melones	San Joaquin																														0.00
Menlo Park	Coast																														0.00
Merced	San Joaquin																														0.00
Merced Falls	do																														0.00
Mesa Grande	Coast																	T.													T.
Mill Creek (1)	San Joaquin																														0.00
Mill Creek (2)	Coast																							T.							T.
Mills College	do																														0.00
Milo	San Joaquin																														0.00
Milton (near)	do																														0.00
Modesto	do																														0.00
Mojave	Desert																														0.00
Mokelumne Hill	San Joaquin																														0.00
Mono Ranch	Coast																														1.12
Montague	Klamath			1.12																											0.00
Monterey	Coast																														0.00
Monterio	San Joaquin																														0.29
Montgomery Creek	Sacramento																														1.60
Monumental	Coast			.49	1.10						.04															.06					
Morina Dam	do																														0.00
Mount Tamalpais	do																														0.00
Mount St. Helena	do																														0.00
Napa City	do																														0.00
Napa (S. H.)	do																														1.40
Needles	do																									1.40					0.11
Nellie	Coast																						.10	.01							T.
Nevada City	Sacramento					T.																									0.00
Newcastle	do																														0.00
Newhall	Coast																														0.00
Newman	San Joaquin																														0.00
Nimshew	Sacramento																														0.00
North Bloomfield	do																														0.00
North Fork	San Joaquin																														0.00
North Lakeport	Coast																														0.00
Oakdale	San Joaquin																														T.
Oakland	Coast			T.						T.																					0.00
Oakville	do																														0.00
Ojai Valley	do																														0.00
Orland	Sacramento																														0.42
Orleans	Klamath					.42																									0.00
Oroville	Sacramento																														0.00
Ozena	Coast																														0.00
Palermo	Sacramento																														0.00
Palm Springs	Desert																														

TABLE 2.—*Daily precipitation for July, 1909. District No. 11*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
California—Cont'd.																																	
Parkfield	Coast																																0.00
Pasadena	do																									.12							0.12
Paso Robles	do																																0.00
Peachland	do																																0.00
Penstock Camp	San Joaquin																																0.00
Peyton	Sacramento																																0.00
Phoenix Dam	San Joaquin																																0.00
Pilot Creek	Sacramento																																0.00
Pine Crest	Coast																																0.00
Pittville	Sacramento																																0.00
Placerville	do																																0.00
Point Lobos	Coast																																0.00
Point Loma	do			.01																													0.01
Point Reyes	do																																0.00
Pollasky	San Joaquin																																0.00
Porterville	do																																0.00
Poway	Coast																																0.00
Priest Valley	do																																0.00
Quincy	Sacramento					T.																											T.
Red Bluff	do					T.																											T.
Redding	do																																0.00
Redlands	Coast		T.																														T.
Reedley	San Joaquin																																0.00
Represa	Sacramento																																0.00
Rialto (near)	Coast		T.																							.25							0.25
Rio Vista	Sacramento																																0.00
Riverside	Coast																																0.00
Rocklin	Sacramento																																0.00
Rohnerville	Coast				T.	.22																											0.22
Sacramento (1)	Sacramento																																0.00
Sacramento (2)	do																																0.00
Saint Helena	Coast																																0.00
Salinas	do																																0.00
San Bernardino	do																																0.00
San Diego	do		T.																														T.
San Francisco	do								T.																							T.	T.
San Jacinto	do																							18									0.18
San Jose	do																																0.00
San Leandro	do					T.			T.																								T.
San Luis Obispo	do																																0.00
San Mateo	do																																0.00
San Miguel	do																																0.00
San Miguel Island	Ocean																																0.24
Sanger	San Joaquin																																0.00
Santa Ana River	Coast		T.																														T.
Santa Barbara	do																										T.						T.
Santa Clara	do																																0.00
Santa Cruz	do																																0.00
Santa Margarita	do																																0.00
Santa Maria	do																																0.00
Santa Monica	do																																0.00
Santa Rosa	do																																0.00
Sausalito	do																																0.00
Selma	San Joaquin																																0.00
Shasta	Sacramento																																0.00
Shingle Springs	San Joaquin																																0.00
Sierra Madre	Coast																									0.2							0.02
Sisquoc Ranch	do																																0.00
Sisson	Sacramento				.11	.08																											0.19
Soledad	Coast																																0.00
S. E. Farallon	Ocean																																0.00
Sonora	San Joaquin																																0.00
Spreckels	Coast																																0.00
Stirling City	Sacramento																																0.00
Stockton (1)	San Joaquin																																0.00
Storey	do																																0.00
Suisun	Sacramento																																0.00
Summerdale	San Joaquin																																0.00
Summit	Sacramento																																0.00
Surrey	Coast																							T.	T.								T.
Susanville	Mountain Lake																										T.						T.
Tamarack	Sacramento																																0.00
Tehachapi	San Joaquin																																0.00
Tehama	Sacramento																																0.00
Three Rivers	San Joaquin																																.....
Towle	Sacramento																																0.00
Tracy	San Joaquin																																0.00
Tulare	do																																0.00
Tulare (near)	do																																0.00
Tustin (near)	Coast																																0.00
Ukiah	do					.04																											0.04
Upland	do																									.05							0.05
Upper Lake	do																																0.00
Upper Mattole	do				.18																												0.18
Vacaville	Sacramento																																0.00
Valley Springs	San Joaquin																																0.00
Ventura	Coast																																0.00
Visalia	San Joaquin																																0.00
Warner Springs	Coast																						1.00	.24	.02								1.26
Wasco	San Joaquin																																0.00
Watsonville	Coast																																0.00
West Branch	Sacramento					.02																											0.02
Westley	San Joaquin																																0.00
West Point	do																																0.00
West Saticoy	Coast																																0.00
Wheatland	Sacramento																																0.00
Willows	do																																0.00
Woodleaf	do																																0.00
Yosemite	San Joaquin																																0.00

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1909. District No. 11, California.*

Date.	Lakeview, Oreg.		California.																							
			Alturas.		Barstow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	96	42	92	39	114	72	83	46	115	80	95	57	59	51	102	63	101	63	89	65	80	62	95	49	100	61	100	64
2...	94	45	95	42	108	74	80	45	108	85	93	61	56	51	105	67	100	65	87	66	75	59	94	52	103	62	99	66
3...	100	46	90	41	108	72	75	40	104	80	88	55	57	53	98	61	97	70	82	61	72	56	93	49	98	64	93	62
4...	94	43	87	37	103	70	56	38	106	76	85	56	62	52	91	60	96	66	74	59	61	45	80	41	91	51	83	61
5...	88	37	76	40	92	63	61	43	103	65	84	55	60	52	77	56	91	54	75	61	58	43	70	46	81	50	76	57
6...	70	31	67	36	93	54	67	39	102	64	84	54	58	53	86	54	84	51	74	58	68	49	77	36	85	48	82	57
7...	80	26	80	29	96	51	75	40	103	65	88	60	59	51	92	56	89	52	75	58	77	59	86	40	91	55	90	65
8...	86	38	82	37	99	59	81	45	107	64	88	57	57	53	95	60	89	55	72	57	72	59	84	43	94	57	90	62
9...	81	40	79	41	100	63	81	45	104	63	87	56	60	52	94	60	91	56	74	57	72	54	83	45	94	57	89	64
10...	77	44	79	44	100	66	82	44	105	67	89	58	63	52	92	61	92	62	75	58	71	55	84	46	96	56	92	66
11...	87	40	83	44	105	63	86	46	109	68	95	62	59	54	98	65	100	60	77	59	79	59	91	49	98	69	97	70
12...	89	44	91	39	110	65	88	46	110	69	103	68	57	52	104	69	102	70	77	59	92	75	96	54	102	65	105	76
13...	101	46	91	43	110	70	90	49	111	69	98	69	58	51	107	66	101	62	73	59	85	69	96	53	106	68	106	77
14...	95	44	94	46	109	69	93	55	113	75	97	61	56	50	102	64	98	69	76	59	82	66	96	53	101	65	104	70
15...	100	44	93	47	105	66	83	51	108	74	97	60	60	50	103	66	97	60	77	59	82	63	95	50	102	65	103	71
16...	93	43	89	39	105	66	80	47	107	76	89	61	58	52	100	63	96	60	75	58	74	61	89	51	99	64	92	71
17...	93	39	84	37	105	67	74	40	102	79	87	57	59	53	96	57	94	60	78	58	71	56	85	45	95	55	90	63
18...	90	40	83	30	103	68	68	38	104	81	90	59	59	49	96	58	93	60	80	58	76	57	89	41	96	55	92	62
19...	91	38	84	42	105	65	74	39	105	75	87	53	69	53	90	57	94	55	76	59	67	53	81	43	92	54	84	59
20...	94	57	84	37	105	65	80	40	109	73	93	55	58	53	95	56	92	56	80	59	80	58	89	40	92	52	98	59
21...	93	46	95	37	104	69	85	46	112	72	96	57	59	51	101	63	95	58	78	58	81	68	92	48	101	61	98	63
22...	102	50	93	45	108	62	86	45	100	80	93	56	61	53	102	64	97	62	77	56	82	68	94	50	100	64	98	65
23...	103	52	92	43	106	75	87	47	106	78	96	63	60	53	105	68	95	61	75	58	82	71	94	48	104	64	100	67
24...	100	45	91	43	106	70	88	49	109	78	97	62	60	53	104	68	97	64	76	58	84	69	94	47	103	67	101	70
25...	101	37	87	40	98	75	75	46	105	80	93	62	60	52	100	68	94	63	73	59	77	54	92	47	100	63	95	70
26...	85	42	78	48	97	69	72	43	103	67	85	56	59	54	89	59	88	53	72	59	64	49	78	45	89	59	83	63
27...	68	31	72	40	92	61	61	43	101	67	86	61	58	53	92	57	85	52	72	59	73	56	85	42	90	54	87	63
28...	79	34	84	33	96	58	86	44	104	61	96	60	60	55	96	62	87	58	76	58	80	65	88	43	96	56	95	68
29...	85	41	88	37	99	56	85	43	108	66	93	60	58	55	100	61	91	56	77	53	76	65	92	45	99	58	96	67
30...	90	43	90	37	103	63	86	45	108	71	91	60	58	53	99	61	93	56	81	55	72	63	97	47	102	63	94	63
31...	91	43	89	41	103	65	86	47	108	74	91	55	60	53	95	62	92	57	79	57	75	63	90	47	96	62	95	62
Mns	90.2	41.6	85.9	39.8	102.8	65.5	79.2	44.3	106.4	72.3	91.3	58.9	59.0	52.3	97.0	61.7	93.9	59.4	76.8	58.6	75.5	59.6	88.7	46.3	96.6	59.2	93.8	65.3

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	102	66	94	57	79	63	68	50	86	45	90	51	83	59	88	42	83	34	93	53	78	44	88	45	96	48
2.....	97	70	85	56	76	65	60	49	71	51	70	50	81	58	80	47	84	45	88	60	81	49	91	51	95	51
3.....	95	65	80	56	69	62	59	50	71	49	70	49	78	55	80	42	82	41	84	56	81	49	88	44	94	52
4.....	89	58	73	52	67	60	61	51	70	43	69	44	70	50	77	42	78	36	84	56	74	42	89	44	89	46
5.....	84	56	75	52	68	60	62	52	70	51	72	50	72	50	72	44	73	35	73	56	59	34	66	37	84	35
6.....	89	52	79	51	66	60	69	52	78	44	80	52	74	52	83	44	62	40	82	52	66	28	71	34	87	40
7.....	88	52	87	58	66	58	71	53	85	46	80	49	70	54	84	48	71	41	87	56	73	33	77	38	87	37
8.....	89	56	82	54	68	59	58	51	73	52	69	50	66	56	78	44	77	44	82	56	71	37	79	46	86	40
9.....	87	53	83	55	66	60	60	50	74	54	71	49	68	55	89	44	71	47	84	56	71	31	81	47	87	41
10.....	90	53	88	58	67	60	70	50	78	49	75	47	65	56	93	50	75	52	87	58	68	38	79	46	89	41
11.....	94	54	94	63	66	59	72	56	84	52	92	58	70	54	93	56	76	55	92	64	81	43	83	48	95	42
12.....	92	54	101	65	67	60	77	53	95	51	76	53	71	57	97	55	78	54	100	65	82	52	89	47	97	50
13.....	93	55	91	61	69	60	61	51	86	50	71	52	68	57	90	50	84	54	95	64	83	48	89	46	98	49
14.....	93	55	90	56	68	61	66	50	83	52	71	50	69	56	77	48	88	56	91	57	81	46	89	46	95	46
15.....	95	53	92	58	68	61	66	52	85	51	74	53	70	52	96	44	87	52	94	60	76	47	90	55	96	49
16.....	94	52	81	56	69	60	63	51	77	46	80	47	70	57	83	43	80	50	87	60	74	46	88	49	94	40
17.....	96	56	83	54	69	60	67	50	75	44	77	46	74	58	86	43	81	44	88	58	76	51	81	44	92	45
18.....	95	59	88	56	70	62	69	51	82	43	75	45	70	54	85	46	77	41	89	57	71	41	79	37	93	44
19.....	93	58	78	52	70	62	62	52	70	43	72	50	76	55	76	42	71	41	80	54	76	43	74	40	90	40
20.....	95	57	93	54	71	59	72	51	87	45	75	47	73	55	90	46	81	45	92	56	82	35	80	39	90	39
21.....	98	58	99	61	70	64	58	51	77	49	72	50	75	56	84	46	83	47	91	61	82	52	87	44	96	40
22.....	101	60	92	55	69	62	61	51	82	54	78	52	75	58	84	49	87	56	92	56	82	48	89	55	93	43
23.....	101	67	94	61	73	62	60	50	80	48	77	49	75	58	85	46	87	48	94	60	78	45	88	49	91	41
24.....	96	66	93	59	70	62	66	51	82	48	73	48	73	56	87	45	87	52	93	60	81	43	88	46	94	42
25.....	90	63	87	59	68	62	63	52	79	47	79	48	69	57	94	47	78	47	88	60	74	44	83	45	96	46
26.....	70	56	83	54	68	62	69	51	75	47	67	52	67	57	89	49	67	46	82	56	61	46	72	47	90	44
27.....	80	57	87	57	67	62	66	52	81	50	72	52	68	52	86	49	71	44	88	58	63	36	75	38	84	39
28.....	90	51	92	60	70	59	63	51	85	47	72	50	67	53	83	48	80	43	91	58	74	39	78	42	89	43
29.....	96	52	90	58	72	60	60	50	80	50	77	48	69	55	79	50	82	43	89	58	76	42	82	49	91	44
30.....	99	57	87	56	72	60	58	51	75	52	75	48	73	54	77	46	81	41	86	58	77	42	82	48	90	43
31.....	97	56	87	53	70	62	59	50	77	53	79	48	71	55	77	49	84	42	85	54	77	43	86	45	91	44
Means	92.5	57.3	87.1	56.7	69.3	61.0	64.4	51.1	79.1	48.6	74.9	49.6	71.6	55.2	84.6	46.7	78.9	45.7	88.1	57.8	75.1	42.5	82.6	44.9	91.6	43.7

Climatological Data for July, 1909.

DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

INTRODUCTION.

July, 1909, in the Columbia River drainage area was unusually cool and wet. There were no destructive storms, and taken as a whole the weather was favorable for the farmer, the engineer and the transportation companies. The rains were well distributed and they were a contributing cause in preventing forest fires which at this season of the year frequently gain headway, and later do immense damage to standing timber. Water for irrigation and placer mining was plentiful and there was sufficient water in the small streams to float the season's cut of logs to the mills. Stream flow measurements made during June and July by the Water Resources Branch of the U. S. Geological Survey in central Oregon showed, however, a smaller amount of water than was expected from the reports received earlier in the season regarding the winter's supply of snow in the mountains. Most of the high pressure areas appearing off the north Pacific coast changed their courses to the eastward before advancing as far northward as usual, and consequently the northwest winds, which are the fair weather winds, did not blow with their ordinary regularity, especially in the interior districts where, in the north, the records show the prevailing winds to have been from the southwest. In the summer southwest winds are relatively cool winds and when they blow, more or less cloudiness prevails, especially in the daytime. It was this daytime cloudiness that shielded the ground from the direct rays of the sun and to a large extent prevented high day temperatures. The night temperatures over the entire district were nearly normal, but the day temperatures averaged considerably below normal, and the cool weather so general in the district is largely attributable to low day temperatures rather than to a uniform decline in both day and night temperatures.

TEMPERATURE.

Over the greater portion of the drainage area of the Columbia River relatively warm weather prevailed on the 2d and 3d, the 14th and 15th, the 21st to the 24th, inclusive, and on the 30th and 31st, and it was during one or another of these warm periods that the maximum temperature of the month occurred in the various subdrainage areas. The highest temperature reported within the district was 110° on the 23d, at Glenns Ferry, Idaho, a station near the Snake River.

The principal cool periods were from the 6th to the 12th inclusive and from the 25th to the 28th, inclusive. Minimum temperatures below the freezing point occurred at many of the mountain stations during these periods, but such temperatures are not unusual in elevated localities in this district. No damaging temperatures were reported in the agricultural sections. The mean temperatures were highest in the bottom lands of the Snake River over the lower half of its course, and along the Columbia River from the mouth of the Spokane River to The Dalles, in Oregon. These bottom lands and those on the tributaries in the vicinity are largely devoted to the raising of fruit, and the weather of the month was especially favorable for this crop.

PRECIPITATION.

Most of the precipitation that occurred during the month fell during two periods, one beginning on the 4th and lasting intermittently until the morning of the 12th, and the other beginning on the 25th and lasting until the evening of the 28th. These rainy periods nearly correspond to the cool spells heretofore described and to a certain extent illustrate the connection between surface temperature and rainfall in this district during the summer time. While the monthly rainfall was the heaviest on record at a number of localities there were no individual storms heavy enough to cause floods and washouts, and traffic suffered little if any interruption through the interference of the elements. Over the drainage areas of the Kootenai, Missoula, and Flathead rivers in Montana, and the Snake River in Wyoming the rainfall was mostly in the form of thunderstorms In Idaho, eastern Washington, and eastern Oregon thunderstorms were less frequent, and in western Washington and western Oregon none was reported.

The region having the greatest rainfall in proportion to the normal was in Montana, northern Idaho and northeastern Washington. Over this area the rainfall was between 2 and 4 inches, while in ordinary years it is less than half of this amount. Another region with a large excess of rainfall included the area covered by the Blue Mountains in Oregon and their offshoots in Washington. In this section the rainfall averaged more than 2 inches while the normal for the month is slightly less than an inch.

Notwithstanding the heavy rainfalls in nearly all parts of the district, the streams fell rapidly owing to their having been swollen to their full capacity during the preceding month by the melting of the snow in the mountains, and the July rains were able only to check what otherwise would have been a more rapid fall than that which occurred. Also it is probable that the dryness of the soil at this season of the year permitted more than the usual amount of precipitation to sink into the ground, and not so much water found its way to the streams and rivers as would have been the case if the ground had been less dry. In the sections where irrigation is practised the rainfall was generally less than an inch, and while it was helpful it was not sufficient to reduce materially the quantity of irrigation water required for the crops.

In many localities the farmers were in the midst of their haying when the rains came and as it was so unusual to have so much rain at this season of the year the necessary precaution was not exercised and consequently the hay crop suffered considerable damage through the farmers not being able to properly cure it in the fields. Fears were also entertained that early grain that had been cut and shocked would be damaged by the rains of the last decade, but these fears proved groundless, and instead the rains were of benefit to all late crops.

The greatest monthly rainfall was 4.93 inches at Headworks, Oreg., a station on the eastern slope of the Willamette watershed, and the greatest twenty-four hour rainfall was 2.77 inches on the 27th at Orofino, Idaho, in the Nez Perce watershed. The only snowfall reported was a trace at Silver City in Idaho. At the close of the month considerable snow remained in the high mountains and it is thought that more than the usual amount will remain in these mountains throughout the summer. In Montana hail fell on a number of dates, but it did no material damage.

TABLE 1.—*Climatological data for July, 1909. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of part'ly cloudy days.	Number of cloudy days.		
Montana.																				
Anaconda	Deer Lodge	5,300	8	61.8[a]	.....	89[a]	1†	39[a]	21	42[a]	2.62	.....	.....	0.0	11	18	5	8	.....	C. D. Demond.
Bison Mountain	Powell	7,240									3.25	.....	0.72	0.0	11	17	13	1	.....	C. H. Anderson.
Columbia Falls	Flathead	3,100	15	62.3	− 1.6	92	23	31	19	50	3.00	+ 1.28	1.28	0.0	6	12	10	9	sw.	Mrs. I. M. Kennedy.
Como	Ravalli		2	60.4	.....	91	22	40	12†	44	1.70	.....	0.65	0.0	10	16	12	3	.....	Hiram Platt.
Darby	....do	3,825									2.00	.....	0.71	0.0	9	15	8	8	.....	W. A. Kerlee.
Dayton	Flathead	2,800																		Charles M. Lawson
East Anaconda	Deer Lodge	5,500	4	62.7	.....	89	16	43	7†	39	3.05	.....	1.84	0.0	11	18	5	8	w.	C. D. Demond.
Fortine[a]	Flathead	2,975	4	59.0	.....	91	4	29	19	51	2.90	.....	1.15	0.0	10	18	3	9	s.	Mike Petery.
Hamilton	Ravalli	3,575	7	65.0	.....	91	1	41	19	41	2.45	.....	1.05	0.0	8	16	5	10	n.	J. B. Currie.
Hat Creek	Powell	6,000									3.63	.....	0.99	0.0	10	15	9	7	w.	M. K. Landreth.
Jocko	Missoula	3,100	1	61.6	.....	90	22	39	19	46	3.35	.....	1.07	0.0	9	18	8	5	nw.	George W. Robbins.
Kalispell	Flathead	2,965	11	62.2	− 2.1	89	4	38	8	40	3.07	+ 2.23	1.06	0.0	8	14	10	7	w.	U. S. Weather Bureau.
Lost Creek	Deer Lodge	5,200																		Frank Henault.
Missoula	Missoula	3,225	26	64.6	− 2.5	97	22	39	19	47	3.52	+ 2.39	1.31	0.0	11	.....	.....	.....	ne.	U. S. Weather Bureau.
Ophir	Powell	8,800									3.34	.....	0.90	0.0	7	17	9	5	w.	E. S. Wilton.
Ovando	....do	4,207	11	57.2	− 3.4	92	22	33	14†	52	2.67	+ 1.54	0.82	0.0	10	5	25	1	w.	S. B. Muchmore.
Philipsburg	Granite	5,275	6	60.4[c]	.....	92[c]	2	31[c]	14†	51[c]	3.21	.....	1.02	0.0	14	19	8	4	sw.	Prof. G. T. Bramble.
Pipestone Pass	Jefferson	7,000									3.39	.....	1.15	0.0	13	12	17	2	w.	Mrs. Th. Kiermeyer.
Plains	Sanders	2,475	11	63.7	− 2.1	91	22	40	7†	42	4.40	+ 2.79	2.00	0.0	5	22	2	7	sw.	M. H. Pierce.
Pleasant Valley	Flathead	3,500	3	58.9	.....	90	4	30	19†	53	2.54	.....	0.89	0.0	8	22	0	9	.....	A. D. Stillman.
Polson	....do	2,920	2	64.8[a]	.....	90[a]	1†	45	7[a]	38	3.59	.....	1.58	0.0	5	.....	.....	.....	.....	F. P. Brown.
St. Ignatius	Missoula	2,700	1	63.1[b]	.....	95[a]	22†	37[c]	19	51[c]	2.88	.....	1.09	0.0	9	20	6	5	.....	U. S. Reclamation Service
St. Regis	....do	2,650																		R. D. Lee.
Saltese	....do	3,600									2.85	.....	1.15	0.0	7	24	0	7	w.	E. K. Tarbox.
Snowshoe	Flathead	4,500	3	58.6	.....	88	22	36	8	36	4.73	.....	1.53	0.0	9	19	4	8	w.	J. S. Riter.
Troy	....do	1,880	15	60.0	− 4.2	103	21	29	10	58	2.69	+ 1.28	1.50	0.0	7	17	8	6	.....	W. E. Milnor.
Upper Lake McDonald	....do	3,200	3	60.0[a]	.....	90[a]	22	31[a]	19	51[a]	3.23	.....	0.72	0.0	10	10	17	4	s.	F. F. Liebig.
Woodville	Jefferson	6,376									2.84	.....	0.83	0.0	14	13	9	9	sw.	Anna Kinman.
Wyoming.																				
Afton	Uinta	6,200																		A. V. Call.
Alta	....do																			Mrs. Lucy Brown.
Bedford	....do	5,900	10	58.4	− 1.4	87	1†	31	7†	48	1.72	+ 0.99	0.74	0.0	5	28	2	1	w.	C. G. Heiner.
Snake River	Yellowstone Park	7,000	3	57.1	.....	87	1†	30	7†	56	1.07	.....	1.02	0.0	2	21	7	3	s.	U. S. Army.
Nevada.																				
San Jacinto	Elko	.....	5	58.6	.....	93	31	31	28†	53	0.28	.....	0.12	0.0	4	20	2	9	sw.	
Idaho.																				
Albion	Cassia	.....	7	66.5	.....	99	2	25	8†	56	0.51	+ 0.20	0.36	0.0	4	22	9	0	w.	G. A. Asline.
Alma	....do										1.11	.....	0.40	0.0	4	23	7	1	s.	Wm. L. Eames.
Bear Valley[f]	Boise			54.5		87	2	28	12	48										Francis Wallis.
Blackfoot	Bingham	4,503	13	66.6	− 1.9	98	1	37	7†	57	0.89	+ 0.38	0.50	0.0	6	22	8	1	sw.	E. A. Dowd.
Blanche	Lincoln			71.8	.....	101	23	44	11	52	0.12	.....	0.12	0.0	1	.....	.....	.....	.....	Solon A. Bray.
Bogus Creek	Boise	4,200									0.17	.....	0.06	0.0	4	18	13	0	.....	F. P. Ingraham.
Boise	Ada	2,770	24	71.5	− 1.3	101	22	47	7	41	0.03	− 0.15	0.02	0.0	2	20	9	2	nw.	U. S. Weather Bureau.
Bonanza	Custer	6,600									1.48	.....	0.49	0.0	7	21	9	1	sw.	Mrs. Emma Walter.
Bonners Ferry	Bonner	1,850	3	64.2	− 1.3	97	22	37	19	53	2.25	+ 0.60	0.91	0.0	7	20	10	1	sw.	W. H. Heideman.
Boulder Mine	Boise	4,800									0.63	.....	0.33	0.0	6	22	6	3	.....	Patrick Moriarty.
Buhl	Lincoln	3,800	4	74.2	− 0.7	103	2	45	8	50	0.08	− 0.42	0.08	0.0	2	23	2	6	w.	Dr. D. P. Albee.
Burke	Shoshone	4,082	3	57.4	− 1.3	91	22	34	19	46	4.60	+ 2.05	1.73	0.0	10	17	12	2	sw.	W. A. Hall.
Caldwell	Canyon	2,372	5	70.4	− 2.9	102	2†	41	7	47	0.01	− 0.14	0.01	0.0	1	22	9	0	w.	W. J. Boone.
Camas	Fremont	4,815		66.4	.....	100	1†	37	28	54	0.50	.....	0.19	0.0	4	15	6	10	sw.	Ednah Faulkner.
Cambridge	Washington	2,651	14	71.4	− 0.8	104	2	44	19	55	0.80	+ 0.45	0.62	0.0	4	.....	.....	.....	w.	C. H. Shepherd.
Chesterfield	Bannock	5,424	13	63.7	+ 2.5	95	2	28	14	59	0.98	+ 0.51	0.45	0.0	4	18	11	2	sw.	Chas. L. West.
Clawson	Fremont										1.35	.....	0.36	0.0	8	22	6	3	.....	E. J. Hopkins.
Cœur d'Alene	Kootenai	2,157	17	66.1	− 1.2	96	22	40	19	47	2.57	+ 1.82	0.72	0.0	5	.....	.....	.....	.....	Jas. T. Scott.
Culdesac	Nez Perce	1,520	...	68.6	.....	100	15†	43	14	53	3.82	.....	2.37	0.0	5	24	3	4	.....	R. R. Richmond.
Dent	....do	1,350	4	68.6[a]	− 0.7	105	22	46[a]	2†	55[a]	3.46	+ 2.24	1.35	0.0	8	19	8	4	.....	Emil Schuessler.
Driggs	Fremont	6,097	3	60.4	− 0.3	90	2	30	12	45	1.80	+ 0.77	0.70	0.0	4	17	9	5	sw.	Walter H. Durrant.
Edie	....do			6.02		88	2	37	21†	45	1.23	.....	0.35	0.0	6	27	3	1	s.	Geo. B. Edie.
Emmett	Canyon	2,350	3	73.2	+ 0.2	106	2	45	6	53	T.	− 0.23	T.	0.0	0	22	4	5	w.	E. L. Marvin.
Forney	Lemhi		13	60.6	+ 0.3	96	1†	28	12	57	2.74	+ 1.62	0.90	0.0	15	16	13	2	sw	E. P. Treloar.
Garnet	Elmore	2,575	10																	Mrs. Inez H. Davis.
Gilbert	Nez Perce	3,030	...	64.8	.....	97	2	44	12	43	3.59	.....	2.30	0.0	8	21	4	6	nw.	J. B. Loomis.
Glenns Ferry	Elmore	2,569	2	76.2	.....	110	23	40[c]	12	58[c]	0.14	+ 0.67	0.14	0.0	1	30	1	0	nw.	I. E. Perkins.
Grand Forks	Shoshone			60.0	.....	97	22	31	21	61	3.24	.....	1.30	0.0	8	20	8	3	w.	H. F. Kottkey.
Grandview	Owyhee			73.9[a]	.....	104[a]	2	44[c]	28	57[c]	0.11	.....	0.11	0.0					nw.	N. G. Massey.
Guffey	....do	2,381	...	76.4	.....	107	2	47	7	47	0.02	.....	0.02	0.0	1	28	0	3	w.	F. N. Perry.
Hailey	Blaine	5,347	7	66.0	− 1.0	97	2	38	28	44	0.57	+ 0.08	0.32	0.0	3	22	6	3	sw.	U. S. Forest Service.
Henry[b]	Bannock			59.3		91	16	30	28	52	1.10	.....	0.40	0.0	5	16	5	2	sw.	N. W. Irsfield.
Hotspring	Owyhee	2,752	4	73.7	− 1.0	102	2	42	19	50	0.05	− 0.49	0.05	0.0	1	24	7	0	.....	J. M. Waterhouse.
Idaho City	Boise	4,000	11								0.23	− 0.41	0.20	0.0						Mrs. Emma Hammer.
Idaho Falls	Bingham	4,742	14	65.8	− 1.6	97	1	37	7	48	0.98	+ 0.42	0.34	0.0	7	19	6	6	ne.	Dr. T. M. Bridges.
Indian Valley	Washington	2,999									0.86	.....	0.46	0.0	2	25	4	2	ne.	W. E. Henke.
Irwin	Bingham							30	10		1.02	.....	0.69	0.0	3	15	8	8	.....	Miss Martha A. Beam.
Kellogg[a]	Shoshone	2,330	5	61.8	− 3.8	98	22	38	19†	54	2.95	+ 2.20	0.73	0.0	9	21	0	9	sw.	W. McM. Huff.
Kooskia	Idaho	1,261	...	68.6	.....	108	22	40	19	59	4.43	.....	2.10	0.0	7	18	5	8	sw.	U. S. Forest Service.
Lake	Fremont	6,700	17	59.0	+ 1.7	84	1†	34	13	42	0.50	− 0.12	0.25	0.0	2	29	0	2	sw.	J. Sherwood.
Lakeview	Bonner	2,250	12	64.6	− 0.9	90	22†	40	22	50	1.95	+ 0.91	0.80	0.0	6	18	1	12	sw.	E. D. Faust.
Landore	Washington	5,300	6	59.2	− 2.1	89	2	35	6†	44	2.59	+ 1.46	1.59	0.0	8	21	7	3	.....	Mrs. Emma L. Brown.
Lardo	Boise	5,050	5	58.6	− 2.0	91	22	32	8†	50	2.58	+ 1.68	1.64	0.0	6	20	7	4	sw.	E. W. York.
Lewiston	Nez Perce	757	15	71.6	− 2.0	102	2	49	8	44	2.59	+ 2.17	1.87	0.0	8	16	9	6	e.	U. S. Weather Bureau.
Little Camas	Elmore										0.25		0.25	0.0	1	13	13	5	w.	Solon McCoy.
Lost River	Blaine	5,700	15	62.8	− 1.7	93	1	33	28	50	0.89	+ 0.32	0.65	0.0	3	.....	.....	.....	sw.	B. B. Harger.
Lowry	Owyhee		2	63.6	.....	98	30	36	7†	55	0.10	− 0.37	0.10	0.0	1	16	15	0	nw.	W. D. Winter.
Mackay	Custer	5,897	2			96	2				1.75	+ 0.15		0.0		25	5	1	n.	U. S. Forest Service.
Meadows	Washington	3,950	7	63.0	− 1.1	98	22	35	8†	58	2.16	+ 1.29	1.45	0.0	7	16	12	3	.....	Chas. A. Hackney.
Milner	Twin Falls	4,097	6	70.0	− 2.0	98	1†	41	28	49	T.	− 0.04	T.	0.0	0	27	4	0	w.	R. A. Hanson.
Moscow	Latah	2,748	17	63.6	− 3.0	96	22	43	12	42	3.65	+ 2.82	1.87	0.0	6	19	6	6	w.	University of Idaho.
Mountainhome	Elmore	3,150	4	70.0	− 2.4	105	2	38	12	53	0.12	− 0.18	0.12	0.0	1	24	4	3	nw.	Mrs. Ellen Marion.
Murtaugh[a]	Twin Falls		3	68.2	− 0.8	96	2	39	28	50	0.32	− 0.11	0.16	0.0	2	20	10	0	w.	J. E. Steinour.
Nez Perce	Nez Perce			61.3		92	2	35	14†	49	3.40	.....	2.20	0.0	8	21	4	6	.....	P. W. Mitchell.
Oakley	Cassia	4,191	17	70.8	+ 0.2	98	1	37	7	50	0.55	+ 0.16	0.20	0.0	4	9	22	0	s.	John Adams.
Orofino	Nez Perce	1,027	5	68.4	− 3.2	108	22	43	13	56	4.32	+ 3.03	2.77	0.0	8	20	9	2	.....	Geo. Alteneder.
Payette	Canyon	2,159	16	71.2[a]	− 2.3	104[a]	22	39[a]	7	55[a]	0.01	− 0.33	0.01	0.0	1	24	6	1	n.	E. F. Allen.
Pebble	Bannock			62.4	.....	95	2	34	7	52	1.06	.....	0.39	0.0	5	16	13	2	sw.	Arthur P. Say.
Pierson	Custer	7,000									1.14	.....	0.46	0.0	4	28	1	2	n.	David P. Clarke.
Pleasant Valley	Ada	3,000	2	70.0	− 1.9	106	22	40	19	56	0.05	+ 0.01	0.04	0.0	2	27	2	2	nw.	C. E. Friedrich.
Pocatello	Bannock	4,483	11	69.8	− 1.4	98	2	43	28	42	0.81	+ 0.18	0.34	0.0	6	20	10	1	se.	U. S. Weather Bureau.

TABLE 1.—*Climatological data for July, 1909. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of part'ly cloudy days.	Number of cloudy days.		
Idaho—Cont'd.																				
Pocatello Nursery	Bannock		3	63.4	− 2.4	94	1†	32	7	53	1.71	+ 0.24	0.91	0.0	6	....	....	....	sw.	Peter F. Wrensted.
Poplar	Bingham			64.6	.....	96	1†	32	12	53	0.79	.....	0.26	0.0	5	17	11	3	sw.	Stuart Lee.
Poplars	Canyon	2,425	10	.....	.....	.....	.....	.....	.....	.....	0.07	− 0.11	0.04	0.0	....	.....	.....	.....	.....	N. S. Dils.
Porthill	Bonner	1,665	17	63.4	− 2.7	90	22†	40	19	42	1.78	+ 0.72	0.51	0.0	8	21	4	6	sw.	H. A. French.
Pyle Creek	Boise	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.61	.....	0.42	0.0	5	21	4	6	.....	Walter L. Cole.
Rupert	Lincoln	4,204	3	70.5	− 1.0	99	1	41	28	48	0.91	− 0.50	0.51	0.0	4	29	2	0	w.	Will Parry.
St. Maries	Kootenai	2,263	13	62.3	− 3.4	98	22	39	13†	52	3.15	+ 1.95	1.34	0.0	8	20	2	9	sw.	J. S. Turnbull.
Salem	Fremont	5,000	5	.....	.....	.....	.....	.....	.....	.....	1.09	+ 0.22	0.47	0.0	6	.....	.....	.....	w.	Geo. H. A. Harris.
Salmon	Lemhi	4,040	4	67.0	+ 0.2	100	2	37	21	55	0.91	− 0.12	0.45	0.0	10	20	9	2	w.	E. K. Abbott.
Salmon River Dam	Twin Falls	.....	2	70.2	− 1.4	98	2	39	7	42	0.96	+ 0.26	0.76	0.0	4	21	7	3	nw.	Arch M. Gilbert.
Sheep Hill	Boise	5,000	.....	.....	.....	.....	.....	.....	.....	.....	0.10	.....	0.05	0.0	3	.....	.....	.....	.....	Clifford M. Gardner.
Silver City	Owyhee	6,200	3	.....	.....	.....	.....	.....	.....	.....	0.10	− 0.41	0.08	T.	2	.....	.....	.....	.....	O. A. Petitt.
Shoshone	Lincoln	3,968	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. O. Treeman.
Soldier	Blaine	5,140	13	68.5	+ 3.8	96	4	41	11	46	0.62	+ 0.21	0.45	0.0	3	27	3	1	w.	W. W. Leek.
Standrod	Cassia	.....	5	65.8	− 1.2	90	1†	38	7	35	1.08	+ 0.39	0.68	0.0	5	22	8	1	s.	T. B. Jones.
Sugar	Fremont	.....	2	63.5	− 1.1	94	2	35	12	47	1.07	+ 0.30	0.36	0.0	5	20	8	3	sw.	Geo. F. Webb.
Sunnyside	Elmore	.....	.....	71.6	.....	104	2	40[a]	28	52	0.05	.....	0.05	0.0	1	.....	.....	.....	nw.	E. A. Wilmot.
Tilden	Bingham	4,420	.....	67.5	.....	100	1	37	8	53	0.59	.....	0.35	0.0	3	20	8	3	sw.	Mrs. W. A. Edwards.
Twin Falls	Twin Falls	3,825	4	68.0	− 2.2	96	15†	40	28	51	1.28	+ 0.78	0.67	0.0	4	18	13	0	nw.	Clyde C. Anderson.
Vernon	Fremont	.....	12	64.3	+ 0.1	94	1†	34	13	50	0.82	+ 0.15	0.46	0.0	3	15	13	3	sw.	A. M. Slatery.
Wallace	Shoshone	2,728	2	61.2	− 2.1	95	22	39	19	45	3.29	+ 1.40	1.33	0.0	11	.....	.....	.....	.....	U. S. Weather Bureau.
Warfield	Blaine	6,386	.....	58.2	.....	89	1†	32	12	48	0.79	.....	0.46	0.0	4	22	8	1	.....	Wm. H. Warfield.
Wendell	Lincoln	3,400	....	72.1	.....	105	2	41	28	52	0.32	.....	0.15	0.0	2	22	9	0	w.	Chas. L. Dingler.
Washington.																				
Aberdeen	Chehalis	162	18	57.4	− 2.7	73	13†	40	17	32	2.45	+ 1.50	0.62	0.0	12	6	18	7	w.	C. Weatherwax.
Anacortes	Skagit	60	15	48.6‖	.....	78	2	35	3	41	1.76	+ 1.26	1.05	0.0	6	16	10	5	.....	Douglass Allmond.
Baker	....do.	200	3	61.2	.....	86	21	41	4	41	1.33	.....	0.44	0.0	5	17	4	10	.....	Robt. M. White.
Bellingham	Whatcom	60	14	60.0	− 0.8	81	3	41	2†	37	1.53	+ 0.75	0.81	0.0	8	21	4	6	.....	Sanford B. Mayhew.
Blaine	....do.	53	12	59.1	− 1.7	77	21	39	2†	34	2.06	+ 1.25	0.96	0.0	11	14	11	6	w.	G. A. Ruring.
Bremerton	Kitsap	.....	....	.....	.....	.....	.....	.....	.....	.....	0.57	− 0.13	0.34	0.0	3	.....	.....	.....	.....	U. S. Navy Yard.
Cedar River	King	.....	2	.....	.....	.....	.....	.....	.....	.....	1.67	.....	0.49	0.0	8	12	5	14	.....	Geo. Landsburg.
Centralia	Lewis	212	16	61.4	− 2.7	92	21	40	2†	50	2.78	+ 2.14	1.07	0.0	10	11	9	11	w.	I. S. Turner.
Cheney	Spokane	2,351	10	68.9	.....	98	1†	40	13	52	1.99	+ 1.25	0.55	0.0	4	27	3	1	.....	G. A. Fellows.
Chopaka	Okanogan	1,200	1	66.2	.....	97	22	40	18	48	2.54	.....	1.30	0.0	8	12	3	16	nw.	Mrs. J. S. Myers.
Clearbrook	Whatcom	140	6	58.4	.....	86	21	33	2	48	2.72	.....	0.89	0.0	9	11	7	13	s.	Geo. Gibbs.
Clearwater	Jefferson	135	13	57.4[b]	− 3.5	70[b]	2†	38[b]	2	32	3.36	+ 1.73	2.00	0.0	12	21[a]	7[a]	2[a]	.....	Alfred Ritchie.
Clealum	Kittitas	1,930	10	60.3	− 3.3	90	2†	33	19	53	0.32	+ 0.06	0.15	0.0	4	23	4	4	sw.	J. A. Balmer.
Colfax	Whitman	2,300	20	62.4	− 2.4	92	22	39	21	50	2.85	+ 2.19	0.84	0.0	6	.....	.....	.....	.....	W. H. James.
Colville	Stevens	1,635	9	64.0	− 4.4	99	22	35	19	56	1.90	+ 0.73	0.62	0.0	8	19	2	10	sw.	W. L. Sax.
Conconully	Okanogan	2,300	9	62.8	− 3.9	93	22	39	17†	43	1.92	+ 0.97	0.82	0.0	5	21	4	6	s.	Wm. Baines.
Couperville	Island	150	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. T. Howard.
Crescent	Lincoln	2,250	9	63.5	− 2.9	97	22	37	19	53	2.07	+ 1.32	0.90	0.0	6	21	5	5	sw.	Otto Wollweber.
Davenport	....do.	2,450	....	62.8	.....	93	22	36	17	47	1.13	.....	0.42	0.0	7	22	6	3	sw.	W. H. Reed.
Dayton	Columbia	1,700	23	66.9	− 2.4	95	2	45	6†	39	2.05	+ 1.37	1.22	0.0	6	17	11	3	sw.	W. W. Hendron.
Detroit	Mason	31	1	62.2	.....	89	21	43	2†	43	1.78	.....	0.64	0.0	8	15	10	6	s.	Walter O. Eckert.
Dixie	Walla Walla	5,000	.....	.....	.....	.....	.....	.....	.....	.....	3.95	.....	1.85	0.0	7	19	2	10	sw.	T. Z. Andrews.
Duckabush	Jefferson	380	1	60.2	.....	84	20	39	20	45	1.64	.....	0.32	0.0	10	7	5	19	sw.	Emery J. Finch.
East Sound	San Juan	500	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benj. E. Harrison.
Ellensburg	Kittitas	1,571	21	65.2	− 1.0	95	2	41	18	51	0.89	+ 0.70	0.45	0.0	3	24	6	1	nw.	R. Lee Barnes.
Ephrata	Grant	1,265	6	72.3	.....	99	22	48	12	36	0.43	.....	0.25	0.0	3	19	7	5	.....	D. Chaffee.
Forks	Clallam	480	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. W. Palmer.
Fort Simcoe	Yakima	1,427	15	70.4	− 2.4	97	22	43	18	42	0.66	+ 0.58	0.50	0.0	3	27	1	3	.....	Dr. G. A. Landes.
Goat Lake	Snohomish	2,900	.....	.....	.....	.....	.....	.....	.....	.....	2.49	.....	1.23	0.0	8	.....	.....	.....	.....	C. M. Mackintosh.
Gold Creek	Yakima	2,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John W. Anderson.
Goldendale	Klickitat	1,600	3	64.8[c]	.....	100[c]	21	38[c]	18	52	.....	.....	.....	.....	.....	15	6	5	w.	Klickitat Co. AbstractCo.
Granite Falls	Snohomish	397	6	.....	.....	.....	.....	.....	.....	.....	2.39	+ 0.86	0.90	0.0	10	13	8	10	nw.	C. H. Cleaver.
Hatton	Adams	1,100	4	68.4	.....	103	21	38	21	65	0.59	.....	0.22	0.0	4	19	7	5	sw.	Dr. A. V. Marion.
Huntsville	Columbia	1,400	1	.....	.....	.....	.....	.....	.....	.....	1.63	.....	0.85	0.0	5	22	3	6	.....	Dr. B. Hill.
Irene Mount	Okanogan	3,015	.....	.....	.....	.....	.....	.....	.....	.....	3.61	.....	0.91	0.0	8	13	7	11	s.	Mrs. E. W. Wheeler.
Kennewick	Benton	367	14	72.2	− 5.4	104	2	44	11	51	0.15	+ 0.07	0.08	0.0	3	23	8	0	.....	L. W. Soth.
Kettle Falls	Stevens	1,265	....	66.0	.....	95	3†	41	19	48	1.72	.....	0.67	0.0	7	17	9	5	.....	Dr. A. E. Baldwin.
Kiona	Benton	430	4	71.8	.....	100	22	46	11†	46	0.39	.....	0.23	0.0	4	23	6	2	sw.	Dr. F. S. Hedger.
Kosmos	Lewis	775	3	61.6	.....	89	2†	38	4†	49	0.87	.....	0.29	0.0	8	7	17	7	ne.	Hon. J. A. Ulsh.
La Center	Clarke	250	12	60.8	− 3.8	90	21	41	4	44	2.04	+ 1.21	0.83	0.0	7	16	9	6	sw.	Joseph Brothers.
La Crosse	Whitman	1,400	....	66.2	.....	98	22	39	12†	56	1.84	.....	1.01	0.0	8	19	7	5	sw.	M. E. Schreck.
Lake Clealum	Kittitas	2,171	.....	.....	.....	.....	.....	.....	.....	.....	0.24	.....	0.14	0.0	2	17	6	8	nw.	U. S. Reclamat'n Service.
Lake Kachess	....do.	2,235	...	59.4	.....	90	21	32	21	58	0.53	.....	0.17	0.0	5	17	8	6	n.	Do.
Lake Keechelus	....do.	2,479	1	.....	.....	.....	.....	.....	.....	.....	0.55	.....	0.30	0.0	4	10	5	16	.....	Do.
Lakeside	Chelan	1,116	18	70.2	− 2.5	94	22†	49	18	37	0.74	+ 0.44	0.33	0.0	5	18	9	4	w.	W. H. Van Meter.
Laurel	Klickitat	1,900	.....	.....	.....	.....	.....	.....	.....	.....	0.73	.....	0.66	0.0	4	16	12	3	w.	L. S. Strout.
Lester	King	1,614	5	59.6	.....	92	20†	34	13	57	0.80	.....	0.30	0.0	4	16	3	12	w.	W. W. Clabaugh.
Lone Tree	Chealis	9	....	59.0	.....	72	18	50	2†	19	1.77	.....	0.66	0.0	12	8	7	16	nw.	U. S. A. Engineers Corps
Longmire Spring	Pierce	2,800	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Servfce.
Lost Creek	Okanogan	3,125	.....	.....	.....	.....	.....	.....	.....	.....	2.25	.....	1.18	0.0	6	17	9	5	s.	P. H. Leese.
Lucerne	Chelan	1,100	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Barbara Schearer.
Lyle (Pine Hill)	Klickitat	600	16	65.5	− 4.1	98	21	42	18†	53	0.25	+ 0.10	0.20	0.0	3	18	8	5	n.	Thomas J. Whitcomb.
McCumber's Ranch	Yakima	2,182	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mrs. Mary McCumber.
Mottinger	Benton	307	9	72.4	− 3.9	101	21	48	18	46	0.22	+ 0.04	0.09	0.0	4	23	3	5	w.	G. H. Mottinger.
Mount Pleasant	Skamania	650	9	61.4	− 3.6	84	21	45	13†	32	2.54	+ 1.48	0.89	0.0	11	18	4	9	w.	F. M. Grout.
Moxie	Yakima	1,000	17	68.2	− 3.0	98	22	41	18†	49	0.65	+ 0.42	0.25	0.0	6	24	3	4	nw.	H. B. Scudder.
North Head	Pacific	211	7	56.0	− 1.7	64	30	51	13	9	1.61	+ 1.07	0.74	0.0	12	14	3	14	nw.	U. S. Weather Bureau.
Northport	Stevens	1,950	10	60.8	− 5.9	93	22	30	19	55	3.08	+ 1.89	0.59	0.0	11	16	8	7	.....	A. L. Hager.
North Yakima	Yakima	1,076	...	70.6‖	.....	98	22	46	18	39	0.57	.....	0.32	0.0	4	.....	.....	.....	nw.	Albert Bender.
Nutland	Klickitat	.....	.....	70.8	.....	100	21	45	17	40	0.10	.....	0.10	0.0	1	.....	.....	.....	.....	J. R. Shepard.
Odessa	Lincoln	1,540	6	66.8	.....	98	22	38	17	52	0.52	.....	0.33	0.0	2	16[a]	8[a]	6[a]	w.	Wm. U. Neeley.
Olga	San Juan	50	19	57.4	− 2.0	73	2	42	19	29	2.03	+ 1.41	1.02	0.0	6	13	11	7	sw.	Cecil S. Willis.
Olympia	Thurston	200	31	60.8	− 1.7	90	21	39	2†	47	1.22	+ 0.52	0.44	0.0	7	11	7	13	nw.	M. O'Conner.
Omak	Okanogan	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.06	.....	0.65	0.0	3	25	3	3	s.	Wm. G. Tait.
Oroville	....do.	922	....	70.2	.....	100	22	44	11	49	2.66	.....	1.40	0.0	8	13	5	13	nw.	A. M. Dufield.
Peola	Garfield	5,000	.....	.....	.....	.....	.....	.....	.....	.....	2.30	.....	1.26	0.0	10	20	9	2	w.	Samuel Gruell, sr.
Pomeroy	....do.	1,500	17	68.2	− 4.1	99	3	46	12†	50	1.25	+ 0.80	1.00	0.0	2	20[c]	0[c]	8[c]	w.	Peter McClung.
Port Crescent	Challam	259	14	53.9	− 2.4	71	2	39	2	32	1.55	+ 0.94	0.60	0.0	9	10	8	13	nw.	U. S. Weather Bureau.
Port Townsend	Jefferson	80	19	57.9[c]	− 3.3	71[c]	19	44	14	22	0.86	+ 0.34	0.44	0.0	8	15	6	10	w.	Frank Plummer.
Pullman	Whitman	2,550	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	State Agricultural Col.
Quinlault	Chehalis	300	2	58.8	.....	80	2†	40	15	38	3.37	.....	1.08	0.0	17	6	18	7	w.	A. V. Higley.
Republic	Ferry	2,628	9	59.6	− 5.0	92	22	32	17†	51	2.43	+ 1.17	0.90	0.0	10	19	7	5	nw.	Geo. B. Stocking.
Rex Creek	Chelan	1,135	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James W. Nicol.

TABLE 1.—*Climatological data for July, 1909. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, .01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Washington—Cont'd.																				
Ritzville	Adams	1,825	10								0.93	+ 0.70	0.40	0.0	5					Agent, No. Pac. Ry.
Rock Lake	Whitman	1,750	3	64.3[a]		94[a]	2†	39[a]	12†	46	1.61		0.62	0.0	6	21	2	8	s.	P. M. Ramsey.
Rosalia	do	2,425	17	64.8	− 0.1	94	22	43	18†	41	2.18	+ 1.25	0.60	0.0	8	19[a]	6[a]	5[a]	sw.	Hans Mumm.
Russell's Ranch	Yakima	2,870									0.75		0.46	0.0	4	22	0	9	sw.	John Russell.
Seattle (1)	King	123	18	60.6	− 2.9	78	21	50	19	26	0.35	− 0.34	0.26	0.0	6	9	7	15	s.	U. S. Weather Bureau.
Seattle (2)	do			60.8		78	14†	47	13	29	0.25		0.14	0.0	5	16	5	10	s.	Univ. of Washington.
Sedro-Wooley	Skagit	38	12	61.2	− 1.0	90	21	33	30	54	1.86	+ 0.43	1.23	0.0	6	13	11	7		H. L. Devin.
Sixprong	Klickitat	1,240	2	70.6		98	21	50	8†	38	0.20		0.08	0.0	4	22	2	7	sw.	C. E. Comstock.
Skagit Power Dam	Whatcom										1.55		0.50	0.0	8					Skagit Power Co.
Snohomish[m]	Snohomish	50	15	60.0	− 2.7	80	29	41	19	33						10	5	3	nw.	Irving B. Vestal.
Snoqualmie Falls	King	667	10	63.1	− 1.7	90	21	40	19	48	1.24	+ 0.04	0.42	0.0	6	21	0	10		O. N. Wiswell.
Snyder's Ranch	Okanogan	2,200									1.79		0.78	0.0	4	18	9	4	e.	George M. Snyder.
South Bend	Pacific	16	14	60.5	− 1.9	74	19	43	15	27	1.96	+ 0.93	0.71	0.0	6	16	4	11		John L. Stevens.
Spokane	Spokane	1,943	28	65.9	− 2.9	95	22	46	19	36	2.37	+ 1.70	1.07	0.0	7	18	6	7	sw.	U. S. Weather Bureau.
Stehekin	Chelan	1,100	2																	M. E. Field.
Stokes Ranch	Okanogan	2,670																		Amos Stokes.
Sullivan Lake	Stevens	2,700																		Mrs. Jennie D. McAbee.
Sumner	Pierce	77	1	60.2		86	21	37	2	42	0.86		0.38	0.0	7	14	5	12	sw.	H. E. Thompson.
Sunnyside	Yakima	740	14	68.4	− 3.3	98	2†	41	17	49	0.52	+ 0.35	0.47	0.0	3	22	4	5	sw.	U. S. Reclamat'n Service.
Tacoma	Pierce	213	23	60.9	− 2.5	82	21	46	4	32	0.86	+ 0.20	0.51	0.0	5	10	11	10	n.	U. S. Weather Bureau.
Tatoosh Island	Clallam	86	24	54.4	− 0.7	62	28	47	17	12	1.83	+ 0.05	1.24	0.0	13	7	8	16	s.	Do.
Tieton	Yakima	2,000		66.5		95	2†	42	11†	47	0.47		0.25	0.0	3					U. S. Reclamat'n Service.
Touchet	Walla Walla	356	2	70.2		101	2	43	12†	54	0.11		0.10	0.0	2	19	6	6	sw.	D. W. Dorrance.
Touchet Ridge	Columbia	2,500									4.27		1.71	0.0	4	21	7	3	sw.	R. H. King.
Trinidad	Douglas	900	5			98[i]	2†				0.68		0.68	0.0	1	14[i]	5[i]	3[i]	nw.	J. C. Wheeler.
Twisp	Okanogan	1,619	6	66.4[d]		98[d]	22	41[d]	1†	51	0.96		0.65	0.0	3	18[b]	2[b]	9[b]		Wm. G. Hughes.
Tyee	Chelan	2,000									0.45		0.35	0.0	2	15	9	7	sw.	Elias McCrea.
Vancouver	Clarke	100	34	63.5	− 3.1	87	21	47	3†	39	2.41	+ 1.34	0.85	0.0	8	12	9	10	nw.	A. A. Quarnberg.
Vashon Island	King	110	20	60.2	− 2.8	82	21	43	1	34	0.74	+ 0.18	0.40	0.0	4	21	2	8	n.	Miss Gertrude McClintock
Wahluke	Grant	410	5	71.7		101	22	41	17	48	0.44		0.41	0.0	2	25	4	2		F. C. Koppen.
Wallace	Okanogan	4,000									2.17		1.34	0.0	2					Geo. A. Wallace.
Walla Walla	Walla Walla	1,000	25	70.9	− 3.2	100	2	48	18	40	1.21	+ 0.82	0.79	0.0	5	21	6	4	s.	U. S. Weather Bureau.
Waterville	Douglas	2,624	19																	O. R. Hopewell.
Wenatchee (near)	Chelan	1,169	10	65.8	− 2.7	91	22	46	7†	33	0.71	+ 0.38	0.58	0.0	2	20	3	8	w.	George Pitcher.
West Branch	Spokane	2,600																		Martin A. Murray.
Wilbur	Lincoln	2,203	10	62.8	− 1.4	96	22	30	17	53	0.60	+ 0.02	0.44	0.0	3	21	5	5	sw.	Rollin J. Reeves.
Yale	Cowlitz	375	2	62.0		89	21	41	4†	39	3.34		1.80	0.0	7	13	14	4	sw.	L. F. Williams.
Zindel	Asotin	715	7	74.0		107	22	50	7	41	2.72	+ 1.65	1.97	0.0	6	16	10	5	n.	M. W. Zindel.
Oregon.																				
Albany	Linn	214	33	62.8	− 3.6	90	21	42	18	43	1.34	+ 0.87	0.68	0.0	5	17	6	8	n.	F. M. French.
Ashland	Jackson	1,940	25	66.4	− 3.2	93	21	43	18	39	0.60	+ 0.31	0.55	0.0	2	20	5	6	nw.	F. H. Carter.
Astoria	Clatsop	11	47	60.8	− 0.7	76	4	45	5	28	2.41	+ 1.39	1.57	0.0	9	19	0	12	nw.	C. W. Lamar.
Baker City	Baker	3,466	20	63.3	− 3.0	94	22	38	7	41	0.64	+ 0.10	0.33	0.0	6	19	8	4	nw.	U. S. Weather Bureau.
Bay City	Tillamook	14	13	60.2	+ 1.1	84	29	38	4†	38	2.93	+ 1.28	0.78	0.0	13	12	8	11	nw.	J. O. Bozarth.
Birch Creek	Wheeler	2,900		66.9		97	2	40	18	40	0.90		0.42	0.0	4	20	10	1	w.	F. S. Matteson.
Black Butte	Lane	1,200	8	59.6	− 6.0	83	2†	37	14	46	2.01	+ 1.16	0.90	0.0	6	21	6	4	ne.	James A. Putman.
Blalock[d]	Gilliam	237	10	74.6	− 3.3	103	21	50	18	43	0.17	+ 0.05	0.17	0.0	1	21	1	4	w.	Geo. W. Long.
Buckhorn Farm	Josephine	1,300	10	64.8	− 2.9	95	21	38	1	50	0.60	+ 0.42	0.53	0.0	2	22	2	7	n.	E. F. Meisser.
Cascade Locks	Hood River	100	18	64.0	− 4.1	84	21	47	21	37	1.29	+ 0.46	0.52	0.0	10	17	8	6	w.	Val W. Tomkins.
Cazaderc	Clackamas	514		62.6		88	21	44	4†	43	2.53		1.04	0.0	10	15	7	9	w.	A. Drill.
Condon	Gilliam	2,884	1	62.0		90	22	36	18	45	0.91		0.52	0.0	2	25	0	6	w.	C. H. Williams.
Corvallis	Benton	600	7	62.0	− 3.1	86	2	42	4	40	1.10	+ 0.85	0.81	0.0	3	18	7	6	w.	Oregon Agric. College.
Dayville	Grant	1,500	14	68.8	+ 0.4	102	2	38	18	57	1.12	+ 0.75	0.40	0.0	7	23	6	1	nw.	Dr. J. Campbell-Martin.
Doraville	Columbia	600	7	58.4	− 4.6	81	2	42	18	38	2.58	+ 1.57	0.71	0.0	12	12	4	15	nw.	Jos. Hackenberg.
Drain	Douglas	300	6	63.5	− 3.2	92	21	40	1†	48	0.84	+ 0.43	0.92	0.0	7	16	9	6	nw.	Ira Wimberly.
Echo	Umatilla	625	5	72.2		106	21	45	18	52	0.21	+ 0.16	0.11	0.0	2	25	3	3	w.	R. B. Stanfield.
Ella	Morrow		10	70.4		101	21	45	1	51	0.27	+ 0.20	0.22	0.0	2	24	6	1	sw.	C. F. Troedson.
Eugene	Lane	449	18	62.8	− 2.9	86	21	43	4	37	0.75	+ 0.27	0.43	0.0	4	20	4	7	w.	A. W. Jackson.
Fairview	Coos	142	11	55.8	− 6.1	76	1	38	20	36	0.85	+ 0.29	0.30	0.0	3	26	0	5	nw.	Wm. Bettys.
Fall City	Polk	355	11	60.4	− 3.1	88	21	36	4	44	0.90	+ 0.47	0.59	0.0	4	17	9	5	e.	Chas. F. Vick.
Forest Grove	Washington	220	19	63.7	− 1.5	91	22	40	5	45	1.95	+ 1.69	0.98	0.0	6	10	16	5	nw.	Pacific University.
Gardiner	Douglas	72	19	60.3	+ 0.2	75	30†	44	18	29	1.73	+ 0.83	0.30	0.0	7	14	14	3	n.	Hon. J. S. Gray.
Glendale	do	1,441	5	63.4		95	21	34	17	54	0.25		0.25	0.0	1	25	4	2	nw.	B. J. Simpson.
Glenora	Tillamook	575	17	58.4	− 4.1	84	2	38	4†	42	3.09	+ 1.91	0.72	0.0	11	15	3	13	sw.	Mrs. Jennie Recher.
Gold Beach	Curry	40	6			73	17				1.14	+ 0.96	0.26	0.0	7	22	1	8	nw.	C. Dewey.
Granite	Grant	4,680	4	57.0		91	2†	28	18	56	0.07	+ 0.27	0.38	0.0	4	9	17	5	nw.	L. M. Ford.
Grants Pass	Josephine	956	20	66.6	− 2.8	100	21	37	18	54	0.29	+ 0.19	0.22	0.0	2	17	8	6	sw.	John B. Paddock.
Grass Valley	Sherman	2,381	7	59.0	− 5.2	90	20	32	15	37	0.10	− 0.09	0.08	0.0	2	7	16	8	sw.	Agent, O. Ry. & N. Co.
Greenleaf	Lane		9	60.4		87	23	39	1†	42	1.15		0.36	0.0	8	15	6	10	nw.	Wm. Wheeler.
Headworks	Clackamas	719	10	60.2	− 4.9	85	21	43	21	41	4.93	+ 3.58	1.58	0.0	11	15	5	11	sw.	Portland Water Works.
Heppner	Morrow	1,950	20	65.0	− 3.7	98	21	40	13†	48	0.30	− 0.17	0.11	0.0	4	23	4	4		Geo. Whiteis.
Hermiston	Umatilla	450	4	71.4		100	2†	46	14	48	0.21	+ 0.20	0.10	0.0	3	22	3	6	sw.	C. W. Kellogg.
Hood River	Hood River	243	18	65.0	− 2.2	95	21	40	6	51	0.45	+ 0.27	0.45	0.0	1	20	7	4	w.	H. L. Hasbrouck.
Huntington	Baker	2,110	7	74.2	− 3.9	99	24	50	7	99	0.80	+ 0.54	0.50	0.0	3	19	9	3		J. M. Day.
Jacksonville	Jackson	1,640	20	67.6	− 2.1	97	22	42	7†	95	0.26	+ 0.07	0.22	0.0	2	20	7	4		E. Britt.
La Grande	Union	2,784	21	61.2	− 7.7	97	2†	40	7†	50	1.58	+ 0.94	0.91	0.0	7	22	6	3		W. A. Worstell.
Madras	Crook	2,150		64.4		100	21	30	18	58	0.30		0.18	0.0	3	18	8	5	w.	D. P. Rea.
Marshfield	Coos	12	7	58.6	− 1.4	74	24	41	18	24	1.39	+ 0.79	0.39	0.0	9				nw.	Dr. E. Mingus.
McKenzie Bridge	Lane	1,400	7	60.7	− 4.9	90	21	31	4	50	3.24	+ 2.04	1.17	0.0	7	19	1	11	w.	Geo. Frissell.
McMinnville	Yamhill	180	21	62.2	− 2.5	89	21	40	3	46	1.56	+ 1.16	0.79	0.0	4	12	10	9	sw.	C. J. McKee.
Mikkalo	Gilliam	1,600	5	66.7		95	21	41	8	41	0.75	+ 0.68	0.64	0.0	5	15	12	4	w.	J. T. Chandler.
Miramonte Farm	Clackamas	195	19	63.6	− 1.5	90	21	43	4	43	1.67	+ 1.17	0.82	0.0	6	15	5	11	sw.	G. M. Muecke.
Monroe	Benton	350	12	61.8	− 3.4	86	2†	41	18	36	0.66	+ 0.36	0.57	0.0	3	12	1	18	nw.	John H. Starr.
Mount Angel	Marion	485	23	62.8	− 4.4	84	2	47	4	32	3.09	+ 2.45	1.07	0.0	9	16	4	11	sw.	Dr. U. F. Fisher.
Mountain Park[a]	Hood River	1,550	4	62.2		89	2†	41	18†	44	0.58	+ 0.28	0.42	0.0	4	15	5	10	w.	Raymond Markley
Newport	Lincoln	69	19	58.7	+ 1.0	72	24	46	18	23	1.86	+ 1.08	0.62	0.0	12	11	11	9	nw.	Wm. Matthews.
Pendleton	Umatilla	1,272	19	69.0	− 2.3	103	21	42	13	58	0.35	− 0.12	0.14	0.0	4	20	8	3	w.	H. F. Johnson.
Pilot Rock	do	1,872		68.8		102	21	41	18	55	0.36		0.14	0.0	5	24	7	0	nw.	John P. McManus.
Pompeii	Clackamas	3,580	14	51.6	− 4.1	82	21	34	6	37	4.72	+ 3.06	1.92	0.0	8	16	3	12	sw.	O. C. Yocum.
Portland	Multnomah	57	40	64.0	− 2.8	88	21	47	13	34	2.26	+ 1.66	0.80	0.0	7	12	11	8	nw.	U. S. Weather Bureau
Port Orford	Curry	300	4	56.6		67	22	46	8†	18	1.57	+ 1.53	0.56	0.0	7	20	7	4	nw.	Willis T. White.
Prineville	Crook	3,000	12	61.1	− 3.6	97	23	32	18	53	0.61	+ 0.31	0.40	0.0	3	21	3	7	w.	C. I. Winnek.
Prospect	Jackson	2,750	4	62.0		95	21	32	18	53	1.31		0.93	0.0	2	18	8	5	w.	E. F. Graham.
Range	Grant		4	58.2		91	2	28	26	57	1.92		1.00	0.0	5	19	9	3		Craig Thom.
Riverside	Malheur	3,000	12	66.2	− 3.7	99	2†	33	7	57	0.05	− 0.27	0.05	0.0	1	18	10	3	w.	Mrs. Leah Fairman.
Roseburg	Douglas	523	32	63.8	− 2.6	88	21	43	18	41	0.48	+ 0.14	0.33	0.0	4	11	16	4	n.	U. S. Weather Bureau.
Salem	Marion	120	18	62.9	− 3.3	85	21	46	18	33	1.96	+ 1.55	1.12	0.0	3	19	1	11	w.	M. P. Baldwin.

TABLE 1.—*Climatological data for July, 1909. District No. 12*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
Oregon—Cont'd.																			
Siskiyou	Jackson	4,115	1	58.6	.....	85	2†	36	18	33	1.44	.....	1.11	0.0	5	20	8	3	ne.	Louise F. Bates.
Stafford	Clackamas	.....	13	62.0	− 4.1	89	21	41	13	42	2.08	+ 1.26	1.11	0.0	9	.....	.....	.....	n.	J. P. Gage.
The Dalles	Wasco	112	34	68.7	− 3.6	96	21	45	18	46	0.39	+ 0.24	0.22	0.0	2	20	3	8	w.	S. L. Brooks.
Toledo	Lincoln	50	19	58.0	− 3.2	74	23†	42	1†	32	2.11	+ 1.61	1.01	0.0	7	21	7	3	nw.	C. B. Crosno.
Umatilla	Umatilla	340	19	71.8	− 0.8	102	2	47	20	48	0.25	+ 0.09	0.13	0.0	3	23	1	7	w.	Mrs. H. T. Duncan.
Vale	Malheur	2,459	17	72.0	+ 2.1	103	2	38	7	59	0.13	− 0.13	0.09	0.0	2	29	2	0	ne.	H. P. Osburn.
Wallace Orchard	Polk	.....	....	62.4	.....	85	21†	42	13†	41	1.94	.....	0.98	0.0	3	11	13	7	.....	Chas. A. Park.
Wallowa	Wallowa	2,935	6	62.0	− 3.0	95	22	37	12†	54	2.42	+ 1.82	1.63	0.0	7	12	9	10	nw.	L. J. Coverstone.
Warmspring	Crook	1,600	7	65.0	.....	100	2	35	18	55	0.22	− 0.48	0.22	0.0	1	19	2	10	nw.	Claude C. Covey.
Weston	Umatilla	1,800	19	65.5	− 1.7	97	21	39	18	49	0.94	+ 0.22	0.52	0.0	4	19	6	6	se.	M. A. Baker.
Williams	Josephine	.....	....	64.3	− 2.1	93	23	38	18†	54	0.39	+ 0.22	0.35	0.0	2	17	4	10	n.	J. M. John.

* Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.
** Precipitation included in that of the next measurement.
† Also on other dates.
‡ Data are from standard instruments not supplied by the U. S. Weather Bureau.
§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.
‖ Estimated by observer.
‖ ‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.
[a], [b], [c], etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

TABLE 2.—*Daily precipitation for July, 1909. District No. 12, Columbia Valley.*

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana.																															
Anaconda	Missoula			.09	T.	.02	.13	.01	.01	.02	.06	T.									.40			.19	T.	T.	** 1.69	T.		T.	T.	2.62
Bison Mountain	do		.02	T.	.45	.10			.40					.20								.50		.11	T.	.07	.64	.72	.04			3.25
Columbia Falls	Flathead					T.	1.28	.31			.44	.28															.60	.09				3.00
Como	Bitter Root			.22	.16	.34	.09		.01		.10										.92					.02		.65	.09			1.70
Darby	do					.62				.23	.16		.02							T.	.03			.12	.06		.05	.71	T.			2.00
Dayton	Flathead																														
East Anaconda	Missoula			.12	T.	.01	.06	T.	T.	.03	.08	T.								.03	.59			.10	T.	T.	1.84	.08	.11		T.	T.	3.05
Fortine[a]	Flathead				.09	T.	1.15	.11	T.		.13	.05							.01				.13			T.	1.00	.06	.16	T.			2.90
Hamilton	Bitter Root				.18		1.05	.08			.10	.06												.20			.06	.72					2.45
Hat Creek	Missoula			.05	.40		.42	.02			.17	.01									.97			.10	1	1	.99	.50					3.63
Jocko	Flathead			T.	T.	.95	1.07	.10		.10	.20	T.									.10						.10	.70		.03			3.35
Kalispell	do			.09	T.	.32	.75	.06			20	T.															1.06	.54	.05				3.07
Lost Creek	Missoula																														
Missoula	do			.07	.35	.32	.91	.16			.17	.08	.01								T.						.03	1.31	.11				3.52
Ophir	do				.25	.31	T.				.90									T.	.70					.28	.50	.40				3.34
Ovando	do			T.		.18	.75	.04	T.		.28	.30									.02					.02	.22	.82	.04	T.			2.67
Philipsburg	do	.08		.10	.01	.01	.44	.10		.05	.27	.04									.20				.05		.78	1.02	.06				3.21
Pipestone Pass	do		.07	.16	.40	.21		.02	.07	.09	.11						T.		T.	T.	1.15	.02		.13			.12	.84	T.				3.39
Plains	Columbia			T.	T.	.70	.20	T.			.50	T.															1.00	2.60					4.40
Pleasant Valley	Kootenai						.84	.15			.02	.09												T.			.35	.89	.17	.03			2.54
Polson	Flathead						1.16	.17			.31																	1.58	.37				3.59
St. Ignatius	do					**	1.09	.06	.02		.34	.08															.31	.80	.18				2.88
St. Regis	Missoula																										.44	.45	1.66				
Saltese	do					.20	.20	.15			.10	.20															.85	1.15					2.85
Snowshoe	Kootenai			T.		T.	.67	.43	.01		.32	1.53	.03						T.								.48	1.07	.19				4.73
Troy	do					.40				.05	.15											.20	.25				T.	1.50	.14				2.69
Upper Lake McDonald	Flathead					.60	.72		.27		.56	.13	.04						T.							.05	.63	.16	.07				3.23
Woodville	Missoula			.04	.16	.11	.10	T.		.10	.25									.90	.60			.09	.11	.08	.21	.83	.06				2.84
Wyoming.																															
Afton	Snake																														
Alta	do																				.05		.50					.80				
Bedford	do			.16																					.28	.07	.47	.74				1.72
Snake River	do																				.05						1.02					1.07
Nevada.																															
San Jacinto	Snake	.06	.07	T.	T.																		T.	T.			.03	.12				0.28
Idaho.																															
Albion	Snake			T.	T.	T.														.06	.02						.36	.07				0.51
Almo	do			.40																.30				.01			.40					1.11
Blackfoot	do		.02	T.	.02				T.		T.							T.		.25				.05			.50	.05				0.89
Blanche	do																										.12					0.12
Bogus Creek	Payette			.02	T.	T.		.05			T.	T.											T.	T.			.04	.06				0.17
Boise	Boise		T.		T.		T.	.01		T.	T.											T.		T.	T.		.02	T.				0.03
Bonanza	Salmon			.09	.43	.17						.11								T.	.06		T.					.49	.13			1.48
Bonners Ferry	Columbia					.91	.20	.09			30	.18															.42	.15					2.25
Boulder Mine	Boise					.33		.05	.02			.01																.19	.03				0.63
Buhl	Snake			.05																			.03										0.08
Burke	Columbia			.05		.28	.42	.23	.09		.19	.58															.82	1.73	.11				4.60
Caldwell	Boise								.01																		T.	T.					0.01
Calls Ranch																																	
Camas	Lost River Region		T.	T.	.19	T.													T.		T.		T.	.10		T.	.06	.15				0.50
Cambridge	Snake					T.		.08																			.02	.62	.08				0.80
Chesterfield	do			.14	T.																					.14	.45	.25					0.98
Clawson	do			.10	.08							.05									.06			.35		.05	.30	.36					1.35
Coeur d' Alene[d]	Columbia						.62	.28			.27		.68															.72					2.57
Culdesac	Clearwater					.47	.36	.05																				2.37	.57				3.82
Dent	do					.38	.42	.13			.20	.33															.25	1.35	.40				3.46
Driggs	Snake			.10																					.50		.70	.50					1.80
Edie	Lost River Region			.55	.25	.06				.05											.23						.15						1.23
Emmett	Payette									T.																							T.
Forney	Salmon			.05	.06	.15	.03	.07	.03	.26	.05	.17								.03	.10			.04			.20	.90	.60				2.74
Gilbert	Clearwater			T.	T.	.02	.10	.05		.02		.10															.20	2.30	.80				3.59
Glenns Ferry	Snake																											.14					0.14
Grand Forks	Columbia					.16	.16				.16	.56															.84	1.30	.08				3.42
Grandview[a]	Snake																											.11					0.11
Grimes Pass	Boise				T.	.16		.09													T.					T.	.38						0.63
Guffey	Snake								T.														T.			T.		.02					0.02
Hailey	Wood-Malad			.15	T.	.10															T.							.32					0.57
Henry[b]	Snake										T.								T.		.01				.06	.25	.40	.38					1.10
Hotspring	do				T.																								.05				0.05
Idaho City	Boise					T.	.13																T.					.20					0.33
Idaho Falls	Snake			.05	.34	.03														.03		.27			.11			.15					0.98
Indian Valley	do																										.40	.46					0.86
Irwin	do				.07																			.69			.26						1.02
Kellogg[a]	Columbia						.72	.34	.05		.17	.18	.21													T.	.10	.45	.73					2.95
Kooskia	Clearwater				T.	T.	.40	.15			.55	.20															.45	2.10	.58					4.43
Lake	Snake			T.																				.25	.25	T.							0.50
Lakeview	Columbia					T.	T.	.10	.25	.30	.40																	.80	.10					1.95
Landore	Snake					.01	.09	.03			.05													.05			.11	1.59	.66					2.59
Lardo	Payette					T.		.11				.23	.16														.14	1.64	.30					2.58
Lewiston	Clearwater			T.		.06	.26	.03		.20	.11															.02	T.	1.77	.14				2.59
Little Camas	Boise		T.								T.												T.			.25							0.25
Lost River	Lost River Region				.07	.65			T.												.17		T.					T.					0.89
Lowry	Owyhee	T.						T.																			T.	.10					0.10
Mackay	Lost River Region					1.40														.15	.04						.16						1.75
Meadows	Salmon					.01	T.	.09			.18	.12															.09	1.45	.22					2.16
Milner	Snake				T.	T.																					T.						T.
Moscow	Columbia					.38	.53	.36			.15	T.														T.	T.	1.87	.36					3.65
Mountainhome	Snake																											.12					0.12
Murtaugh	do			T.		.16	T.			T.																		.16	T.				0.32
Nez Perce	Clearwater					.40	.10	.10		.20	.30	.10															.40	1.80					3.40
Oakley	Snake	.15																						.10			.20	.10					0.55
Orofino	Clearwater					.36		.07		.02	.34	.19															.30	2.77	.27					4.32
Payette	Payette				T.					T.	T.										T.						T.	.01					0.01
Pebble	Snake		.02	.39																T.					.07	T.	.25	.33					1.06
Pierson	Salmon			.20			.46					.04													T.			.44					1.14
Pleasant Valley	Boise	.04						T.															T.				.01	T.					0.05
Pocatello	Snake	.10	.14		T.							T.								.21	.02						.27	.07					0.81
Pocatello Nursery[c]	do	.23	.07	.91															.05		.18							.27					1.71
Poplar	do		.08	.22														T.	T.	T.					.02		.26	.21					0.79
Poplars	Boise							.02			T.																.04	.01					0.07
Porthill	Columbia		T.			.34	.21	.07			.08	.41	.08						T.							T.		.51	.08					1.78
Pyle Creek	Payette		.03					.08														T.	T.				.05	.42	.03					0.61
Rupert	Snake		.22	.51																							.14	.04					0.91
St. Maries	Columbia		T.			.28	.82	.26			.21	.04														T.	.05	1.34	.15					3.15
Salem	Snake	.08		.15	.03																.25						.47	.11					1.09

TABLE 2.—*Daily precipitation for July, 1909. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Idaho—Cont'd.																																	
Salmon	Salmon			.04	T.	.05			.02	.16	T.	.03								.02	.06			T.	T.		.03	.45	.05				0.96
Salmon River Dam	Snake			.76		.01																		T.			.04	.15					0.90
Sheep Hill	Boise				T.								T.											T.		.04	.05	.01					0.10
Silver City	Owyhee	.02		T.																				T.				.08		T.	T.		0.10
Soldier	Wood-Malad		T.	.12																									.45	.05			0.62
Standrod	Snake		.03	.12	T.																			.68			.29	.01					1.13
Sugar	do			T.	.18				T.										T.	.16	.33			.05			.36	T.					1.07
Sunnyside	do																											.05					0.05
Tilden	do																		.14	.10							.35						0.59
Twin Falls	do				.67	.44																					.04	.13					1.28
Vernon	do				T.																.46				T.		.25	.11					0.82
Wallace	Columbia			.02		.17	.52	.19	.01		.23	.19												.01		T.	.56	1.33	.06				3.29
Warfield	Wood-Malad			.12		.18					.03										T.							.46					0.79
Wendell	Snake				T.	.15			T.														T.				T.	.15					0.30
Washington.																																	
Aberdeen	Coast					.17	.62	.14		.13	.61	.22					.11								.14	.14	.04	.08	.05				2.45
Anacortes	Puget Sound					.05	1.05	.12			.22															.01	.31						1.76
Baker	do						.44	.38		T.	.09	.38	.04					T.										T.					1.32
Bellingham	do						.81	.12		T.	.29	.12	.01				.10									.03			.05				1.53
Blaine	do					.04	.96	.34		T.	.13	.36					.06	.01								.03	.07	.04	.02				2.06
Bremerton	do						.18					.34					.05																0.57
Cedar River	do						.49	.32		T.	.47	.08													.03	.07	.12	.09					1.67
Centralia	Coast						1.07				.28	.40						.20	.05						.04	.08	.15		.05		.46		2.78
Cheney	Spokane					.40	.51	.53																				.55					1.99
Chopaka	Okanogan						.70	1.30	.01		.24	.17														.08			.03	.01			2.54
Clearbrook	Puget Sound						.89	.30			.27	.74					.12	.01								.20		.13	.06				2.72
Clearwater	Coast																																
Cle-alum	Yakima					.03	.15	.09																			.05						0.32
Colfax	Palouse					.54		.32			.60	.07																.84	.48				2.85
Colville	Columbia					.07	.62	.49			.20	.26																.03	.21	.02			1.90
Conconully	Okanogan					.06	.82	.76			.09																	.19					1.92
Coupeville	Puget Sound																																
Crescent	Spokane					.28	.90	.36			.14																	.37	.02				2.07
Davenport	Columbia					.05	.25	.32			.05	.02														T.		.42	.02				1.13
Dayton	do					.17		.06		T.	.15																.04	1.22	.41				2.05
Detroit	Puget Sound						.43				.33	.64					.03	.01								.28	.03	.03					1.78
Dixie	Columbia						.13	.30		T.	.07	.40															.10	1.85	1.10				3.95
Duckabush	Puget Sound				.05		.23			.32	.24	.30		.05			.12	.23		T.					T.	T.	.03	.07	T.				1.64
East Sound	do																																
Ellensburg	Yakima						.18	.45																			T.	.26					0.89
Ephrata	Columbia						T.	.25																				.10	.08				0.43
Forks	Coast																																
Fort Simcoe	Yakima						.50	.15			.01																						0.66
Goat Lake	Puget Sound						.10	.41		.04		1.23	.05						.60									.04	.02				2.49
Gold Creek	Yakima																																
Goldendale	Columbia						T.				T.																1.00						
Granite Falls	Puget Sound					.28	.16	.90		.02	.30	.21	.01						.40									.09	.02				2.39
Hatton	Columbia							.21			.05															T.	.11	.22					0.59
Huntsville	do						.04	.05					.11															.85	.58				1.63
Irene Mountain	do					.91	.53	.64	T.	.04	.73	.48																.06	.22				3.61
Kennewick	do							.08			.02																.05						0.15
Kettle Falls	do					.07	.67	.43			.29	.15								.04								.07					1.72
Kiona	Yakima					.12	.03				.01																	.23					0.39
Kosmos	Columbia					T.	.26	.02			.29	.19					.02	.03									.03		.03				0.87
La Center	do					.40	.83			.01	.33							.31								.15	T.	.01					2.04
La Crosse	Palouse					.03	.04	.14		.51	T.	.04															.01	1.01	.06				1.84
Lake Clealum	Yakima					T.	.14	.10			T.																	T.					0.24
Lake Kachess	do					T.	.17	.11			.13	.09								.03													0.53
Lake Keechelus	do					.05		.15				.30						T.	.05														0.55
Lakeside	Columbia					.03	.10	.33			T.															T.	T.	.24	.04	T.			0.74
Laurel	do						.66				.02	.04																.01					0.73
Lester	Puget Sound							.30			.20								.20									.10					0.80
Lone Tree	Coast					.10	.66	.05		.07	.52	.11	T.				.07	T.	.02				T.		.02	.12		.01	.02				1.77
Longmires Springs	Puget Sound																																
Lost Creek	Columbia					T.	1.18	.60	T.	T.	.24	.07															T.	.09	.07					2.25
Lucerne	do																																
Lyle	do						.20	.02			T.							T.									T.	.03					0.25
McCumbers Ranch	do																																
Mottingers	do						.08	.04			.09																.01						0.22
Mount Pleasant	do					.48	.89	.01			.30	.08						.22	.01							.35	.07	.03	.10				2.54
Moxee	Yakima						.25	.25		.05	.06																.01	.03					0.65
North Head	Coast					.20	.72	.01	.01	.06	.29						T.	.03	.12	.02					T.	.05	.02	.08					1.61
Northport	Columbia					.08	.58	.59		.23	.57	.08	.06					T.								.02	.23	.18	.46				3.08
North Yakima	Yakima						.19	.30			.03	.05																					0.57
Nutland	Columbia																										.10						0.10
Odessa	do							.33	T.		T.	T.															T.	.19					0.52
Olga	Puget Sound						1.02			T.	.23						.28									.06	.35	.09					2.03
Olympia	do					T.	.44			.08	.25	.22					.10	.05								T.		.08					1.22
Omak	Okanogan					.20	.65	.21																		T.	T.						1.06
Oroville	do						1.00	1.40	.05		.10	.05														.02		.02	.02				2.66
Peola	Snake					.07	.19	.27		.04	.08	.04														.10		1.26	.20	.05			2.30
Pomeroy	do					T.	T.																		T.		T.	1.00	.25				1.25
Port Crescent	Coast					.04	.57			.23	.24						.01	.01	.16						T.	.21	.08	T.			T.		1.55
Port Townsend	Puget Sound						.44	.11		.01	T.	T.						.03	.14							.02	.02	.09					0.86
Pullman	Palouse																																
Quinlault	Coast					.05	.55	.01		.21	1.08	.50					.01	.16	.43	.15					.05	.07	.02	.03	.03		.01	.01	3.37
Republic	Columbia						.90	.58	.04	.10	.58	.08	T.							.04							.04	.04	.03					2.43
Rex Creek	do																																
Rittville	do					.07		.40			.08																.08	.30					0.93
Rock Lake	Palouse					.28		.62			.06	.07															.15	.43					1.61
Rosalia	do					.35	.28	.39		.02	.11	.03																.60	.40				2.18
Russells Ranch	Yakima					.24			T.		.01																.04	.46					0.75
Seattle (1)	Puget Sound					.01	.24	.02		T.	.05						T.	T.							T.	.02	.01	T.					0.35
Seattle (2)	do						.02	.07				.14														.01	.01						0.25
Sedro-Woolley	do							1.23			.26	.23					.04									.05		.05					1.86
Sixprong	Columbia						.02	.08																				.06	.04				0.20
Skagit Power Dam	Puget Sound			.20	.35	.50	.10			.10			.10													.10							1.55
Snohomish	do																		T.														
Snoqualmie	do			.42	.34					.20	.07							.06										.15					1.24
Snyders Ranch	Columbia			.11	.60	.30																				.78							1.79
South Bend	Coast				.45	.10				.10							.71						.50										1.96
Spokane	Spokane			1.03	.21	.40		.08	.08	.07																T.		.50					2.37
Stehekin	Columbia																																
Stokes Ranch	do																																
Sullivan Lake	Pend Oreille																																

TABLE 2.—*Daily precipitation for July, 1909. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Washington—Cont'd.																																	
Sumner	Puget Sound					T.	.38	.14		.03	.14	.12						T.							.04		T.	T.	.01			0.86
Sunnyside	Yakima						.28	.19			T.																.05					0.52
Tacoma	Puget Sound					T.	.47	.05		T.	.22	.11					T.	T.			T.				.01	T.	T.	T.				0.86
Tatoosh Island	Coast					T.	.01	.03	T.	.11	1.22	.02	T.			.17	.01	.01					.01		.10	.04		T.		.02	.08	T.	1.83
Tieton	Yakima						.15	.25		T.																	.07					0.47
Touchet	Columbia						T.	T.			T.	.10																.01				0.11
Touchet Ridge	do						.33	.61																				1.62	1.71			4.27
Trinidad	do					T.	T.	.68			T.																T.					0.68
Twisp	do					.85	.65			T.	T.															.06		T.				0.96
Tyee	do						.35				.10																					0.45
Vancouver	do					.62	.85			.10	.31							.21								.07	.24	T.	.01			2.41
Vashon Island	Puget Sound						.40	.03	T.		.13	.18	T.													T.	T.					0.74
Wahluke	Columbia							.41																			.03					0.44
Wallace	Okanogan						1.34	.83																		T.						2.17
Walla Walla	Columbia						T.	.06		T.	.28	T.															.08	.76	.03			1.21
Waterville	do																															
Wenatchee (near)	do					T.	T.	.58																				.13	T.			0.71
West Branch	Spokane																															
Wilbur	Columbia						T.	.44		T.	.05																	.11				0.60
Yale	do					.32	1.80	.10			.60							.40							.10			.02				3.34
Zindel	Snake					.06	.21	T.	.02		.39	T.															T.	1.97	.07			2.72
Oregon.																																
Albee	John Day																															
Albany	Willamette						.68	.60				.02							T.								.02	.02	T.			1.34
Astoria	Columbia					.10	1.57	.10		.11	.20	.04										.09				.10	.10					2.41
Ashland	Rogue					.55	.05																									0.62
Baker City	Snake		T.		.01	.13	.04		T.	.12	T.															T.	.01	.33	T.	T.		T.	0.64
Bay City	Coast					.54	.78	.11		T.	.12	.07	.05				.09	.43	.04							.12	.18	.26	.14				2.93
Bear Creek	Deschutes					.33	.62			.22																	.23	.14				1.55
Beaver Creek	do																															
Bellfountain	Willamette					.07	.63	T.			T.	.03						.03							T.							0.76
Bend	Deschutes																															
Big Basin	John Day						.50		.50	.10																	.95					2.05
Birch Creek	do						.42	T.		.10																	.11	.27				0.90
Black Butte	Willamette					.90	.80			.04															.05		.10	.12				2.01
Blalock	Columbia										T.																.17					0.17
Blue Mount Sawmill	Umatilla						.10			T.																		1.74	.70			2.54
Buckhorn Farm	Coast					.53	.07																									0.60
Butte Falls	Rogue River				.05	1.01	.43				T.															T.	.05					1.54
Cableville	Snake																															
California Gulch	Umatilla					.08	.14			.05	.19																	.26				0.72
Canyon City	John Day						.21			.13	.09															T.	T.	.18					0.61
Cascade Locks	Columbia						.52	.03			.23	.08						.24	.02						.02		.03		.03				1.29
Cascadia	Willamette					1.10	1.51	.03			.20	.04					.01	.35								.43	.32	.04					4.03
Cazadero	do					.23	1.04	.03			.16	.25					T.	.20								.18				.11	.04	T.	2.53
Columbia Mine	Snake						.09	.05	T.	.05	.03	.05															T.	.40	T.				0.67
Condon	John Day						.39																				.52					0.91
Coquille River L. H.	Coast					.60	.20				.04	.02					T.									.17	.14				.04	1.21
Cornucopia	Snake				.03		.08		T.	.25	.01											T.					.89		.01			1.27
Corvallis	Willamette					.27	.81											T.							.02							1.10
Cracker Creek	Snake						.01				.01																T.	.03					0.05
Crescent	Deschutes																															
Dayville	John Day			T.	.10	.34		.01	.07	.03															T.	.17	.40					1.12
Doraville	Columbia					.25	.70	.01		.04	.15	.18	T.				.04	.71									.31		.10	.06	.03		2.58
Drain	Umpqua					.23	.42				.50						.03	.06								.04	.02	.04					0.84
Duncan	Umatilla						.10																				.10	.60	.50				1.80
Echo	do						.11			T.	T.	.10																					0.21
Elkhorn Ranch	Coast					.32	1.33			.05	.12	.58						.03								.25	.30	.29		T.		.02	3.29
Ella	Columbia							.05		T.	T.															T.	.22						0.27
Embody	Deschutes					.03	.02																				.08						0.13
Eugene	Willamette					.15	.43																			.02	.15						0.75
Eugene (River sta'n)	do																															
Fairview (1)	Coast					.25	T.					.30	T.														.30						0.85
Fairview (2)	Snake						T.			T.	.02	T.															T.	.08					0.10
Falls City	Willamette					.23	.59				.02	.06																					0.90
Fir Glen	Coast					.18	.34					.02														.01	.01	.06					0.62
Florence	do					.28	.38			.01	.11	.13					.02									.20		.03					1.16
Forest Grove	Willamette				.98	.72	.05			.08								.09									.03						1.95
Galice	Rogue					.25	.10																										0.35
Gardiner	Umpqua					.26	.67			.10																	.30	.18	.18	.04			1.73
Glendale	do					.25												T.							T.								0.25
Glenora	Coast					.70	.72	.09		T.	.60	.32						.10	.10						.26	.11	.03	.06					3.09
Gold Beach	Rogue					.26	.22				.04	.16													.14	.26	.06						1.14
Granite	John Day						T.		.27	.07	.25	T.													T.	T.	.38						0.97
Grants Pass	Rogue					.22	.07													T.													0.29
Grass Valley	John Day						.02																						.08				0.10
Greenleaf	Coast					.31	.36				.11	.26						.02								.04	.02	.03					1.15
Happy Home	Umpqua					.02	.35												.02							.02	.39	.48	.07				1.39
Hazeldell	Willamette				.21	1.05	.42			T.	T.															.17	T.	T.					1.75
Headworks	do					1.03	1.58	.06		T.	.45	.28					T.	.09	.47							.27	.27	.19	.24			T.	4.93
Heppner	Columbia									.05	T.	.03														.11	.11	T.					0.30
Hermiston	Umatilla					.10		.01		T.	.10															T.	T.	T.					0.21
Hilgard	Grande Ronde					.03	.15	.02		.17	.19															.01	.02	1.00	.02				1.52
Hood River	Columbia						.45	T.										T.									T.						0.45
Howardville Station	Grande Ronde						.03	.03			.14	.23															.07	2.03	.35				2.88
Huntington	Snake								.05	.25																		.50					0.80
Ibex Mine	John Day						.06	.02		.13	.06	.04																.70	T.				1.01
Ironside	Snake						.09		.05	T.																	T.	T.					0.14
Jacksonville	Rogue					.22	.04																				T.						0.26
Joseph	Grande Ronde																															
Kamela	do					.10	.30	.10		.15	.25																.15	.80	.35				2.20
Keeps Mill	Deschutes																															
La Grande	Grande Ronde						.17		.01	.18	.10	.06																.91	.15				1.58
Lilyglen	Rogue																															
Long Creek	John Day					.10			.10	.33	T.															T.	.25						0.78
Madras	Deschutes					.03	.18																				T.	.09		T.			0.30
Maury	do					.19	.27			.12																	.15	.11	T.				0.84
McKinzie Bridge	Willamette					1.17	.75	.63											.05							.12	.39	.13					3.24
McKay	Umatilla																															
McMinnville	Willamette					.79	.60				.09							.08								T.	T.						1.56
Meacham	Umatilla							.52																				.30	1.14				1.96
Mikkalo	John Day					.10	.03			T.	.01	.01															.64	.06					0.75
Miramonte Farm	Willamette					.60	.82	T.		T.	.06															.01	.17	T.	.01				1.67
Monroe	do					.57												.09								T.							0.66
Mountain Home	Columbia					.36	.92	.06	T.	.06	.26	.32	T.					.08						T.		.46		.04	.16				2.72

TABLE 2.—*Daily precipitation for July, 1909. District No. 12*—Continued.

Stations.	River basins.	Day of month.																													Total.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oregon—Cont'd.																															
Mount Angel	Willamette				.87	.75	1.07	.02		.02	.05							.11								.08	.12						3.09
Mount Hood	Columbia						.26				.06							T.									.06					0.38
Mountain Park	do					T.	.42				.04	.08						T.									.04					0.58
Mountain Ranch	Rogue				.03		.01																									0.04
Musick	Umpqua					1.50	1.37				.10	.10					T.	.19								.23	.77	.29					4.55
Newport	Coast					.45	.62	.08		.04	.10	.15	.02				.03	.07								.05		.10	.15				1.86
Nigger Flat	Malheur																															
Ochoco	Deschutes						.95			.04	T.																	.25				1.24
Ochoco Creek	do					.05	.81		T.	T.																	.11	.03				1.00
Owyhee	Owyhee										T.																					T.
Pendleton	Umatilla						.14	.03				.12															.06		T.				0.35
Persist	Rogue					.92	.49																				T.	.10	T.				1.51
Pilot Rock	Umatilla						.08	.01		T.	.02	.14															T.	.11					0.36
Pompeii	Willamette					.39	.92	.10			.50	.50						.15									.46	.70					4.72
Portland	do				.23	.27	.80			.02	.13							.04								.77		T.					2.26
Port Orford	Coast					.56	.22			.07	.13															.15	.24	.20					1.57
Post	Deschutes						.40			.03	T.	T.															.16	.09					0.68
Power House	Walla Walla					T.	.04	.03		T.	T.																.05	.87	.79				1.78
Prineville	Deschutes					.40	.10		T.	T.	T.																.11						0.61
Prospect	Rogue				T.	.93	.38																			T.	T.						1.31
Range	John Day					.15	1.00	T.	T.	.32	.35	T.																.10					1.92
Ray Creek	Columbia						.17			.02																.11	.17						0.47
Reston	Umpqua					.13	.12					T.															T.	.03					0.28
Richland	Snake																															
Riverdale Ranch	Deschutes						T.			.33																	T.	.03					0.45
Riverside	Malheur								T.																		.05	T.				T.	0.05
Rock Creek	Willamette						.62	.32				.14															.08						1.08
Roseburg	Umpqua					.33	.12			T.								T.								.01	.02	T.					0.48
Rosland	Deschutes					.29	.10		.04																		.06	T.					0.49
Salem	Willamette					1.12	.76				T.							T.									T.	T.	T.				1.96
Seneca	Interior						.13		.11	.06	.02																T.	.09					0.41
Siskiyou	Rogue				T.	1.11	.18	T.		T.										.07							.05	.03					1.44
Sisters	Deschutes					.30	T.																				.11						0.41
Skyland	Willamette																															
Sparta	Snake																															
Stafford	Willamette					.64	1.11	.01		.01	.13	.04														.09	.04		.01				2.08
Starkey	Grande Ronde					.23	T.			.20	T.																	.72		T.			1.15
Summit	Willamette					.20	.85	.01	T.		.01	.21					.05	.01								.10	T.	.02	.02	.01		T.	1.49
Summit Prairie	Deschutes					.04	.47		.48	.43	T.																.27	.29					1.98
Susanville	John Day					.19	.17	T.	.33	.21	.03	.04														.01	.04	.61	.03				1.66
Telocaset	Snake						.11	T.		.08																	.10	1.60	.11				2.00
The Dalles	Columbia						.22																				T.	.17					0.39
Tin Roof Cabin	Umatilla					.08	.38	.04		.07	.04	.02														T.	.04	.15					0.72
Toledo	Coast					.35	1.01	.05			.10	.20	.10															.30					2.11
Trask	do					.85	1.26	.26	.04	.31						.09	.42	.06								.34	.04	.10	.12				3.89
Umatilla	Columbia					.09	.04				.13														T.		T.						0.26
Unity	Snake					T.	.07		.05	.03	.12																.03	.10					0.40
Vale	Malheur						T.			.04	.09																						0.13
Van	do																															
Wallace Orchard	Willamette					.92	.98	T.	T.	T.	T.							T.								.04		T.					1.94
Wallowa	Grande Ronde				T.		.06		.14	.05	.16	.20														T.	T.	1.63	.18				2.42
Walloupa	do						.15	.04		T.	.19	.04															.05	1.33	.17				1.97
Wamic	Deschutes																															
Warmsprings	do						.22																									0.22
Wasco	Columbia						.10																				.12					0.22
Welches	Umatilla					.11	1.36	.20			.45	.45					.04	.38								.03	.30	.40					3.72
Wenaha Springs	do										.15																		2.00			2.15
Weston	Walla Walla						T.	.05				.11													T.	T.		.51	.26				0.94
Willamina	Willamette					.40	.51																			T.	T.						0.91
Williams	Rogue					.35	.04	T.												T.													0.39

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1909. District No. 12, Columbia Valley.*

Date.	Montana.				Afton, Wyo.		Idaho.																			
	Kalispell.		Missoula.				Boise.		Bonners Ferry.		Hotspring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	82	52	90	53	.....	.....	91	60	88	50	96	58	89	58	93	.....	89	44	97	58	95	47	.....	.....	94	51	80	46
2...	85	50	95	49	.....	.....	100	62	91	47	102	62	102	58	96	.....	97	44	98	68	100	56	.....	.....	94	51	88	63
3...	82	55	85	58	.....	.....	97	74	93	45	100	75	95	66	92	.....	92	50	88	62	86	64	.....	.....	90	63	86	53
4...	89	56	90	58	.....	.....	94	63	91	48	97	70	92	67	83	.....	90	50	87	60	90	58	.....	.....	87	56	84	62
5...	84	57	83	53	.....	.....	81	55	91	52	90	58	78	60	82	.....	80	47	87	56	88	46	.....	.....	85	49	82	57
6...	63	47	69	54	.....	.....	70	49	61	50	76	54	68	54	77	.....	67	38	71	50	88	54	.....	.....	66	40	59	42
7...	56	43	58	43	.....	.....	74	47	59	44	79	46	64	53	79	.....	62	42	74	47	78	51	.....	.....	68	35	56	44
8...	67	38	74	48	.....	.....	81	53	72	45	84	49	81	49	81	.....	80	35	85	44	82	46	.....	.....	85	35	69	46
9...	72	46	77	46	.....	.....	86	53	83	43	91	51	88	57	76	.....	84	37	82	48	82	44	.....	.....	79	40	76	43
10...	65	52	65	50	.....	.....	74	60	67	52	90	58	75	60	77	.....	70	52	76	60	75	50	.....	.....	70	50	68	52
11...	68	50	64	52	.....	.....	76	59	67	51	82	59	78	60	70	.....	74	49	73	57	73	52	.....	.....	74	54	62	43
12...	70	45	74	41	.....	.....	83	51	71	44	88	48	81	53	85	.....	79	35	81	45	79	39	.....	.....	77	35	66	41
13...	72	42	75	42	.....	.....	82	51	75	43	86	52	81	53	87	.....	81	38	83	52	82	44	.....	.....	81	34	71	39
14...	75	42	82	42	.....	.....	88	52	81	39	90	51	90	52	82	.....	88	36	87	49	87	39	.....	.....	83	40	77	40
15...	80	46	87	46	.....	.....	98	57	87	42	97	54	97	57	85	.....	92	39	92	50	91	44	.....	.....	87	41	84	46
16...	82	49	88	49	.....	.....	92	58	83	48	96	52	88	61	90	.....	88	45	95	64	97	42	.....	.....	89	51	79	45
17...	82	48	88	47	.....	.....	92	54	80	42	95	50	78	55	87	.....	85	43	92	58	96	46	.....	.....	85	48	72	42
18...	72	47	78	52	.....	.....	78	50	71	44	90	50	78	57	88	.....	79	39	85	62	85	56	.....	.....	83	55	66	45
19...	76	39	84	39	.....	.....	88	52	82	37	92	42	89	56	84	.....	85	35	91	62	88	44	.....	.....	90	50	77	39
20...	68	42	69	44	.....	.....	84	56	84	40	89	55	90	60	65	.....	79	49	80	55	81	51	.....	.....	77	55	77	40
21...	80	44	86	43	.....	.....	91	58	91	42	91	50	96	55	77	.....	81	40	85	45	85	37	.....	.....	80	36	86	41
22...	89	49	97	50	.....	.....	101	62	97	44	90	50	101	61	87	.....	98	40	92	53	96	41	.....	.....	89	45	95	52
23...	87	60	94	57	.....	.....	94	66	91	53	95	54	94	66	86	.....	94	54	90	60	94	54	.....	.....	90	50	85	52
24...	85	49	92	58	.....	.....	94	64	91	51	96	56	94	60	84	.....	92	46	92	58	93	45	.....	.....	87	53	84	44
25...	82	58	86	48	.....	.....	88	56	90	52	96	55	84	64	82	.....	86	43	92	62	97	45	.....	.....	90	47	80	52
26...	65	55	71	55	.....	.....	77	57	93	50	98	60	74	61	78	.....	72	59	78	54	85	57	.....	.....	72	55	70	53
27...	59	52	58	52	.....	.....	68	54	80	51	92	58	66	57	61	.....	59	45	65	49	70	48	.....	.....	62	49	61	51
28...	66	52	70	48	.....	.....	79	52	70	55	90	56	76	56	71	.....	71	44	78	43	70	47	.....	.....	74	38	64	49
29...	73	47	80	48	.....	.....	88	52	80	45	100	60	88	58	81	.....	86	40	87	50	83	44	.....	.....	82	41	76	46
30...	82	49	87	46	.....	.....	94	60	84	46	97	70	90	60	85	.....	88	41	90	50	87	44	.....	.....	87	45	79	42
31...	82	49	89	50	.....	.....	94	59	91	45	95	55	91	59	88	.....	90	47	92	53	90	44	.....	.....	90	45	78	43
Mns	75.6	48.7	80.2	49.1	.....	.....	86.4	56.6	81.8	46.5	91.9	55.4	85.0	58.2	81.9	.....	82.5	43.4	85.3	54.3	86.2	47.7	.....	.....	82.2	46.4	75.4	46.9

Date.	Washington.																									
	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	71	43	70	41	91	43	81	41	81	59	57	53	88	59	88	45	59	45	70	52	88	54	86	54	71	50	61	53
2...	70	42	73	39	94	44	89	40	92	55	56	52	96	57	95	43	71	39	74	51	96	58	90	54	75	49	62	50
3...	71	43	75	42	97	43	81	43	93	59	58	52	94	64	95	56	60	50	72	52	93	63	92	57	74	52	57	51
4...	63	53	73	45	92	43	81	38	86	62	56	52	90	54	88	51	58	46	71	51	90	55	89	60	74	46	58	51
5...	59	53	70	47	82	44	69	53	80	63	56	54	86	64	81	56	59	51	60	53	86	57	74	56	61	54	55	52
6...	55	52	59	54	64	50	60	51	71	56	54	52	74	52	74	49	57	50	58	53	69	53	60	49	59	53	54	51
7...	63	51	61	52	62	49	66	50	74	50	59	52	77	52	69	49	59	50	64	53	76	51	59	48	64	53	55	50
8...	65	45	68	54	64	50	69	52	78	52	57	52	84	54	77	49	57	51	68	52	84	50	70	52	70	52	55	50
9...	61	52	67	55	85	43	68	54	86	57	57	52	85	59	86	50	57	50	63	54	85	56	79	52	63	54	54	50
10...	58	52	60	53	74	56	63	52	76	58	56	52	79	57	77	55	54	49	60	54	75	60	70	54	61	54	55	50
11...	64	52	67	54	70	49	70	50	76	51	60	54	80	52	79	49	63	49	63	55	79	56	74	52	66	55	56	50
12...	64	52	66	44	74	42	65	51	77	52	58	54	81	48	78	46	58	44	62	53	79	50	73	49	63	53	59	51
13...	73	41	68	44	80	44	80	40	81	54	56	51	84	47	85	42	59	40	68	50	82	51	75	49	68	49	59	50
14...	68	45	71	41	85	45	87	41	89	53	57	53	90	53	88	42	59	40	78	52	89	56	80	49	79	49	59	50
15...	67	50	71	49	89	47	78	43	92	57	59	54	93	54	92	42	61	49	68	51	90	62	89	53	69	50	58	49
16...	63	52	67	52	86	47	72	50	83	56	60	53	88	49	84	41	59	48	67	52	82	56	75	56	67	50	56	49
17...	64	40	68	48	87	38	76	48	78	52	59	52	77	49	76	38	59	42	63	52	74	54	73	51	66	51	57	47
18...	70	48	67	51	75	37	85	38	77	49	61	52	77	46	75	44	60	40	68	52	78	55	70	48	68	49	61	49
19...	73	43	71	39	85	35	82	41	87	50	60	53	87	50	85	41	64	41	75	50	87	60	81	46	76	50	60	48
20...	68	51	72	47	84	44	83	40	87	57	62	54	90	54	88	42	63	51	71	52	89	55	83	49	73	51	59	51
21...	70	44	77	43	93	40	85	40	93	57	59	55	96	57	93	47	59	48	78	55	98	60	88	52	82	50	58	51
22...	68	51	75	55	99	43	89	40	94	59	61	56	98	66	98	62	62	51	70	56	96	66	95	62	73	55	59	52
23...	69	43	73	45	96	44	83	44	94	62	58	53	92	56	93	51	60	41	71	55	90	60	88	61	74	53	60	50
24...	63	49	69	50	86	44	80	48	88	62	59	55	90	60	90	53	61	49	67	53	84	56	86	53	68	52	59	50
25...	67	53	69	56	82	42	79	55	83	61	60	54	90	53	81	61	62	52	69	56	83	54	76	59	72	56	62	52
26...	63	54	70	53	81	40	68	55	83	51	59	56	84	56	83	45	61	52	65	54	74	54	72	52	68	54	57	52
27...	63	55	66	54	94	42	60	53	77	56	58	55	78	56	70	53	62	52	61	56	76	55	61	55	61	56	57	53
28...	67	56	74	53	79	45	72	54	82	60	59	56	84	53	89	50	61	51	73	57	83	55	70	56	71	57	62	52
29...	68	52	72	49	86	52	84	47	89	57	62	56	90	54	90	54	62	52	75	55	91	57	83	53	76	54	58	53
30...	70	49	74	52	88	47	86	46	88	66	64	57	92	58	91	60	64	47	73	53	94	59	86	56	74	55	59	53
31...	62	53	71	48	89	46	73	53	88	58	58	54	92	53	88	50	58	52	66	56	92	60	85	56	67	55	58	52
Mns	65.8	49.0	69.5	48.7	83.6	44.5	76.3	46.8	84.0	56.5	58.5	53.5	86.6	54.7	84.7	48.9	60.3	47.5	68.1	53.2	84.9	56.4	78.5	53.3	69.5	52.3	58.0	50.7

TABLE 3.—*Maximum and minimum temperatures at selected stations for July, 1909. District No. 12*—Continued.

Date.	Walla Walla, Wash.		Oregon.																					
			Ashland.		Baker City.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		Vale.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	88	60	84	50	83	57	78	45	69	.....	92	61	66	45	78	51	83	46	82	45	87	58	100	61
2	100	60	90	55	91	52	85	47	66	.....	100	52	62	48	84	56	92	51	88	48	94	55	106	54
3	92	68	81	53	84	60	81	47	63	.....	94	69	63	53	77	53	83	51	80	45	88	60	101	66
4	90	60	78	50	85	51	73	43	65	.....	92	59	67	52	78	51	85	38	72	44	88	53	97	60
5	75	58	59	47	76	48	65	52	65	.....	79	60	64	49	57	54	64	45	61	51	81	61	90	53
6	63	52	64	48	59	41	69	51	68	.....	69	53	66	52	59	53	53	45	63	49	66	54	77	46
7	74	51	79	47	67	38	70	50	66	.....	78	52	64	48	69	55	74	37	76	45	71	55	82	36
8	85	53	83	44	74	43	70	52	66	.....	87	48	64	52	68	54	78	43	79	50	83	50	90	55
9	88	58	74	54	77	48	71	53	65	.....	89	58	64	54	67	57	74	47	70	55	78	60	88	45
10	75	56	76	56	68	54	66	53	77	.....	78	61	66	54	62	57	71	53	73	56	71	60	84	59
11	78	57	79	56	70	51	73	51	65	.....	80	54	66	56	71	57	73	51	79	56	76	54	83	55
12	78	54	80	50	76	44	70	51	65	.....	81	50	65	46	64	54	77	39	74	54	74	54	90	42
13	79	52	85	48	74	44	74	47	68	.....	84	48	64	48	76	47	78	36	81	45	81	47	87	50
14	90	56	88	53	81	46	82	49	68	.....	91	46	63	53	84	56	85	37	87	49	90	50	96	48
15	92	60	84	55	89	50	83	48	70	.....	94	51	67	54	71	53	84	43	76	48	88	60	103	46
16	78	59	73	52	77	52	70	53	64	.....	81	52	66	54	71	56	74	38	70	55	73	58	99	59
17	74	54	69	52	72	46	69	51	73	.....	77	51	67	43	66	53	67	37	67	51	72	48	94	54
18	76	48	73	43	70	39	70	45	65	.....	78	58	65	41	71	49	71	32	73	43	76	45	85	49
19	86	54	79	55	80	47	80	51	71	.....	90	51	68	50	83	56	78	48	79	53	85	47	92	43
20	88	60	84	50	77	53	79	46	69	.....	91	61	67	45	79	53	82	43	86	45	85	56	95	44
21	98	61	93	58	86	48	86	49	68	.....	100	52	65	48	88	54	92	44	88	51	96	50	105	46
22	96	67	85	58	94	53	85	50	66	.....	97	61	67	55	75	56	85	50	81	51	85	68	102	66
23	92	61	90	55	87	55	81	49	68	.....	96	60	66	51	80	55	97	44	86	50	90	53	100	56
24	88	66	85	57	88	53	81	47	69	.....	92	60	74	56	79	54	95	42	82	48	84	58	98	54
25	81	62	78	56	73	52	71	56	66	56	84	62	68	56	73	57	73	42	73	59	78	60	92	56
26	70	57	69	52	65	51	67	55	66	54	78	57	65	55	68	56	65	44	69	55	72	59	81	59
27	64	55	71	53	54	48	70	55	68	53	76	51	68	55	67	57	67	49	71	54	72	60	74	52
28	80	57	88	49	72	48	77	54	68	51	81	57	68	51	73	58	78	40	83	49	80	58	83	41
29	90	61	88	58	80	49	81	51	61	52	96	52	68	57	80	57	85	45	84	52	88	62	95	43
30	92	63	87	56	84	54	82	49	66	45	99	63	69	48	80	57	85	49	86	50	89	60	99	49
31	91	65	90	58	85	54	82	52	69	45	93	62	63	57	71	59	87	46	80	52	84	61	101	54
Mean	83.6	58.2	80.2	52.5	77.4	49.3	75.6	50.1	67.2	.....	87.0	55.9	66.0	51.2	73.2	54.6	78.5	43.7	77.4	50.3	81.5	55.9	92.5	51.6

WEATHER, FORECASTS, AND WARNINGS FOR THE MONTH.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

During the closing days of June a period of warm, dry weather over the eastern half of the United States began to give way to an area of showers and cooler weather that extended over the Atlantic States during the opening days of July. Temperature continued low generally east of the Mississippi River during the first decade of July and on the 4th and 5th minimum readings as low or lower than previously recorded for the time of year were reported in the Lake region and Middle Atlantic and New England States.

Rains that set in over the Rocky Mountain districts on the 3d and 4th and extended thence eastward inaugurated a seven-day period of heavy rains in the lower Missouri and middle and upper Mississippi valleys that carried rivers and streams above the flood stage. The rainy season in the Southwest also began about this time, heavy rains being reported in Arizona, New Mexico, and western Texas.

From the 10th to 12th severe local storms occurred in the upper Mississippi and Ohio valleys and during the 13th and 14th the rain area overspread the Atlantic States. Following the rain over the eastern districts there were several days of comparatively cool weather. In a special forecast issued July 16 the following statement was made:

> A disturbance will advance from the Rocky Mountains to the Atlantic coast from about the 20th to 23d, preceded by a warm wave and attended by copious rains from the Mississippi Valley to the Atlantic coast.

The disturbance referred to appeared on the eastern slope of the Rocky Mountains on the 20th and reached the Atlantic coast on the 23d. Preceding the depression temperatures were high over the interior and the rains that attended its advance were excessive in areas from the Mississippi Valley to the Atlantic.

Atlantic pressures were high throughout the month in the region of the Azores and except on the 6th and during the third decade of the month continued high over the British Isles. This distribution of pressure over the Atlantic Ocean during the warmer months increases barometric gradients to the southward and southwestward, strengthens the northeast trade winds, and apparently thus promotes the development of cyclonic disturbances in the tropical and subtropical regions of the southwestern Atlantic. Under these conditions a tropical storm appeared over the Caribbean Sea during the second decade of the month and moved thence northwestward to the Texas coast by the 21st.

The presence of this disturbance over the Caribbean Sea to the southeast and then to the south of Jamaica was faintly indicated on the 15th and 16th. From the 17th to 19th the center of disturbance moved northward over the Yucatan Channel into the Gulf of Mexico where it recurved to the northwest with increasing intensity during the 20th and reached the Texas coast south of Galveston on the 21st.

Beginning the 17th advices regarding the storm were telegraphed to Habana and southern Florida ports and from the 18th to 21st Atlantic coast and Gulf shipping interests were informed daily regarding the presence in the Gulf and the apparent position and course of the storm which until the 21st was far out in the Gulf.

The following report of the official in charge of the local office of the Weather Bureau at Galveston, Tex., is supplemented by a more detailed report under District No. 8, page 352:

> Not a life was lost within the area protected by the sea wall and the damage to property was nominal. Outside of the sea wall everything exposed to the wind and waves was destroyed or injured. Among the complete losses were two bathing pavilions, two fishing piers, several structures near the beach beyond the western end of the sea wall, and two fishing piers on the jetties several miles east of Galveston. One other bathing pavilion was badly damaged. The railroad bridge over the bay was damaged and traffic and telegraphic and telephonic communication interrupted. The total damage was estimated at about $100,000 and was possibly greater. Eleven persons went down with one of the piers on the jetties, seven of whom were picked up alive on the following day. There was no damage to shipping except that a few small boats were lost.
>
> The first announcement of the storm's approach was received at this office at 12:57 p. m., July 18. This was followed by further advisory messages on the 19th and 20th, the message of the 20th being to the effect that the disturbance was apparently over the central Gulf moving northward. Shipping interests and the public were kept thoroughly informed by telephone, bulletins, and the press, and I believe that on July 20 there was not a single news-reading person in the city who was not aware of the storm.
>
> It is estimated that the Gulf rose nearly 10 feet above the normal. The entire western portion of Galveston Island was under water and a large number of cattle and hogs was drowned. Volumes of water dashed over the sea wall and flooded lower portions of the city.

The following is from an Associated Press report that was sent out from Houston, Tex., the night of July 23:

> Advices show that damage was done throughout a section of Texas extending on an average 100 miles into the interior. In some counties some reports indicate that very few home owners escaped losses of at least a minor sort. While the property destruction has been great the life loss and serious injury is almost inexplicably small. This is attributed largely to the fact that storm warnings gave the inhabitants an opportunity to prepare for the expected blow.

The following special from Houston appeared in the New Orleans Times-Democrat of July 22:

> Official bulletins issued by the United States Weather Bureau gave warning of the approaching storm and in some measure shipping was prepared for it, had it not been of such a violent nature.

The Daily Picayune of July 22, contained the following special dated the 21st from Galveston:

> A hurricane for east Texas was forecast by the Weather Bureau early this morning and warnings were sent out. When the wind and rain in all their intensity arrived several hours later they found Galveston prepared. The inhabitants of the few scattered houses in the low section of the island had already sought safety and vessels that had cleared and were prepared to sail were riding at anchor in the bay.

The Washington, D. C., Post of July 29, comments editorially on the storm as follows:

> The citizens of Galveston and the residents of the Texas coastal plain owe a great debt of gratitude to the United States Weather Bureau for the timely warnings of the tropical storm which recently swept in from the Gulf of Mexico. While the loss was large from the ravages of the hurricane, yet it probably would have reached an appalling total in death and damage to property had not the storm's destructive path been foreseen by the Bureau many hours before it struck the coast.

Passing inland from the coast the storm diminished rapidly in intensity. Heavy rains, however, attended its progress over southern Texas as far as the Pecos River.

During the passage of the storm over the Gulf of Mexico exceptionally heavy rains in portions of the upper Lake region attended the passage over the Northen States of a depression of slight intensity. At Duluth, Minn., more than 8 inches of rain fell from the 19th and 22d, inclusive.

The following special forecast was issued Saturday, July 24:

> Several days of fair weather and moderate temperature are indicated for the eastern portion of the United States. Temperature will rise in the central valleys from Sunday until about the middle of the week and in the Atlantic States from Tuesday until about the close of the week. The next general rain area will cross the country east of the Rocky Mountains during the latter half of next week and will reach the Atlantic States Friday or Saturday.

Following several days of comparatively fair and pleasant weather over the eastern districts temperature rose as indicated and at points in the Middle-Eastern States the readings were the highest noted for the present year. At Washington, D. C., a maximum of 96° was recorded on the 29th and 94° on the 30th. The eastward movement of the warm wave was followed by an area of rain and cooler weather that reached the Atlantic States Friday and Saturday, the 30th and 31st.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	12	67.3	− 1.5	+ 3.6	+ 0.5
Middle Atlantic	16	72.8	− 1.8	+10.1	+ 1.4
South Atlantic	10	77.4	− 1.6	+10.9	+ 1.6
Florida Peninsula*	8	81.1	− 0.1	+15.3	+ 2.2
East Gulf	11	80.5	+ 0.3	+ 7.5	+ 1.1
West Gulf	10	84.0	+ 2.2	+10.7	+ 1.5
Ohio Valley and Tennessee	13	74.3	− 2.5	+ 5.4	+ 0.8
Lower Lakes	10	69.2	− 2.3	+ 1.9	+ 0.3
Upper Lakes	12	67.4	− 0.4	+ 4.4	+ 0.6
North Dakota*	9	67.4	− 0.5	− 3.9	− 0.6
Upper Mississippi Valley	14	73.0	− 2.4	+ 0.2	0.0
Missouri Valley	12	75.1	− 0.6	+ 2.4	+ 0.3
Northern slope	9	68.0	− 0.1	− 4.7	− 0.7
Middle slope	6	78.2	+ 1.6	+ 3.4	+ 0.5
Southern slope*	8	82.8	+ 2.4	+10.0	+ 1.4
Southern Plateau*	11	78.9	− 0.3	− 4.5	− 0.6
Middle Plateau*	11	70.6	0.0	+ 2.6	+ 0.4
Northern Plateau*	12	66.0	− 2.5	− 3.9	− 0.6
North Pacific	7	59.1	− 2.1	− 8.8	− 1.3
Middle Pacific	5	65.7	− 1.1	− 1.2	− 1.5
South Pacific	4	68.6	− 1.3	− 1.5	− 0.2

*Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		*Inches.*	*Inches.*
New England	11	1.88	53	− 1.70	+ 0.40
Middle Atlantic	16	1.94	44	− 2.50	+ 2.30
South Atlantic	11	4.92	80	− 1.20	− 3.20
Florida Peninsula*	8	8.06	121	+ 1.40	+ 0.50
East Gulf	11	4.49	85	− 0.80	+ 7.00
West Gulf	10	1.39	42	− 1.90	− 8.40
Ohio Valley and Tennessee	13	4.62	112	+ 0.50	+ 4.20
Lower Lakes	10	3.72	109	+ 0.30	+ 3.60
Upper Lakes	12	3.55	113	+ 0.40	+ 1.00
North Dakota*	9	3.00	111	+ 0.30	− 0.10
Upper Mississippi Valley	15	3.73	103	+ 0.10	+ 2.40
Missouri Valley	12	5.06	134	+ 1.20	+ 2.60
Northern slope	9	2.41	150	+ 0.80	+ 1.30
Middle slope	6	3.46	117	+ 0.50	− 1.20
Southern slope*	8	2.01	69	− 0.90	− 5.30
Southern Plateau*	10	1.31	93	− 0.10	− 1.50
Middle Plateau*	11	0.76	136	+ 0.20	− 0.40
Northern Plateau*	12	1.49	253	+ 0.90	+ 0.10
North Pacific	7	1.28	164	+ 0.50	− 2.00
Middle Pacific	7	0.07	100	0.00	+ 6.70
South Pacific	4	T.	100	0.00	+ 5.20

*Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	73	− 4	Missouri Valley	70	+ 1
Middle Atlantic	67	− 7	Northern slope	61	0
South Atlantic	71	− 6	Middle slope	64	+ 2
Florida Peninsula	82	+ 3	Southern slope	61	− 1
East Gulf	79	+ 4	Southern Plateau	45	+ 6
West Gulf	71	− 3	Middle Plateau	37	−13
Ohio Valley and Tennessee	72	0	Northern Plateau	47	−15
Lower Lakes	68	− 6	North Pacific	76	+ 1
Upper Lakes	70	− 7	Middle Pacific	59	−13
North Dakota	76	+ 4	South Pacific	65	− 3
Upper Mississippi Valley	72	0			

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England	4.9	− 0.6	Missouri Valley	4.2	− 0.6
Middle Atlantic	4.3	− 0.9	Northern slope	3.5	− 1.3
South Atlantic	5.2	+ 0.4	Middle slope	3.8	− 0.3
Florida Peninsula	5.8	+ 1.2	Southern slope	4.2	− 0.2
East Gulf	5.8	+ 0.8	Southern Plateau	2.8	− 0.2
West Gulf	3.3	− 1.4	Middle Plateau	2.4	− 1.6
Ohio Valley and Tennessee	5.1	− 0.2	Northern Plateau	3.2	− 1.8
Lower Lakes	4.6	− 1.4	North Pacific	5.4	− 0.9
Upper Lakes	4.6	− 1.2	Middle Pacific	2.6	− 1.8
North Dakota	4.4	− 0.6	South Pacific	2.4	− 1.4
Upper Mississippi Valley	4.9	− 0.1			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Bismarck, N. Dak	27	50	nw.	Pt. Reyes Light, Cal.	2	62	nw.
Cleveland, Ohio	3	52	nw.	Do	3	64	nw.
Do	12	57	w.	Do	4	58	nw.
Columbia, Mo	12	54	n.	Do	5	56	nw.
Columbus, Ohio	12	64	w.	Do	6	54	nw.
Detroit, Mich	2	60	sw.	Do	8	50	nw.
El Paso, Tex	13	67	nw.	Do	9	68	nw.
Do	15	54	ne.	Do	10	70	nw.
Galveston, Tex	21	68	e	Do	11	54	nw.
Huron, S. Dak	30	69	nw.	Do	15	64	nw.
Jacksonville, Fla	18	55	sw.	Do	16	62	nw.
Kansas City, Mo	12	52	n.	Do	17	66	nw.
Milwaukee, Wis	2	58	nw.	Do	24	60	nw.
Mt. Tamalpais, Cal	2	50	nw.	Do	25	77	nw.
Do	3	54	nw.	Do	26	73	nw.
Do	4	56	nw.	Salt Lake City, Utah	18	50	e.
Do	9	70	nw.	Sand Key, Fla	17	52	se.
Do	10	72	nw.	Do	18	52	se.
Do	11	62	nw.	Sheridan, Wyo	20	52	nw.
Do	15	62	nw.	Southeast Farallon, Cal.	17	53	nw.
Do	16	62	nw.	Toledo, Ohio	2	56	s.
Do	17	52	nw.	Do	15	54	nw.
Do	25	64	nw.	Wichita, Kans	11	56	nw.
Do	26	66	nw.	Do	14	55	nw.
North Head, Wash	10	56	se.				

RAINFALL IN JAMAICA.

Through the kindness of Mr. Maxwell Hall, meteorologist to the government of Jamaica and now in charge of the meteorological service of that island, we have received the following data:

Comparative table of rainfall.

[Based upon the average stations only.]

JULY, 1909.

Divisions.	Relative area.	Number of stations.	Rainfall.	
			1909.	Average.
			Inches.	*Inches.*
Northeastern division	25	17	4.78	6.33
Northern division	22	41	3.40	3.10
West-central division	26	20	8.44	8.01
Southern division	27	26	5.45	4.57
Means	100	.....	5.52	5.50

The rainfall for the island for the month of July was therefore the average. The heaviest rainfall, 17.12 inches, was recorded at Petersville, and the least was 1.25 inches, at Halfway Tree.

RIVERS AND FLOODS.

E. H. BOWIE, District Forecaster.

Floods occurred during the month in the Missouri, the Neosho, and the middle Mississippi rivers, and severe local freshets occurred in the Marais des Cygnes River in eastern Kansas and western Missouri, the Jordan River, at Springfield, Mo., and in Perry Creek, a small stream which empties into the Missouri River at Sioux City, Iowa.

The most disastrous flood, that of the Missouri River, was remarkable for the fact that the highest stages of water of previous record during the month of July were exceeded. The river was above flood stage at all places, with the exception of Plattsmouth, Nebr., from Omaha to its mouth, and at Glasgow, Mo., the crest stage of 28.9 feet, was only 0.8 foot below the high-water mark of June 5, 1903.

While considerable loss and damage was caused by the flood above Kansas City, it did not assume such serious proportions as in the central and western portions of the State of Missouri. The following detailed reports of this flood, made by the officials in charge of the Kansas City and St. Louis river districts, respectively, indicate the magnitude of the damage caused thereby.

FLOODS IN THE MISSOURI RIVER ABOVE KANSAS CITY.

By Mr. P. CONNOR, Official in charge, Local Office, Weather Bureau, Kansas City, Mo.

The flood of 1909 in this river district was strictly a Missouri River flood, the Kansas River being safely within its banks the entire season. While the great commercial interests of this city suffered comparatively little, still the flood was not devoid of interest. Public anxiety reached a high tension, as only a few more local rains were necessary to have caused a flood of great magnitude and heavy damage.

The Missouri became bank-full early in June. It remained above the flood stage at St. Joseph from June 8 to July 23, reaching its maximum at that place on July 11. At Kansas City it was close to flood stage from June 17 to 30, inclusive, then began to rise slowly until July 13 when a crest of 27 feet, was reached, after which followed a slow, steady fall until July 20 when the river was again within its banks.

This flood was given its initial start by a combination of snow and rain waters from the upper Missouri Valley in June, which left but a small margin of channel to take care of the early summer rains in the middle and lower sections, which, during the first decade of July became decidely erratic, a 4-inch measurement in less than twenty-four hours being not at all uncommon.

The flood was made up of two distinct waves. The first crest arrived on the evening of July 8 and remained stationary until the night of the 9th. A fresh outburst of rains then caused the river to rise two feet higher, with a crest on the morning of the 13th of 27 feet.

Anticipating these conditions, the statement was published several times in the late spring that the Missouri River would be a full stream in early summer, with conditions generally favorable for a flood, the extent of which would depend upon the character of the rains. Owing to this uncertainty, some enterprises about to be started in the bottoms were deferred until later in the year.

On June 16 warning was issued that the Missouri would reach flood stage at Kansas City on the 18th, which it did before noon of that date. Subsequent daily statements based upon periodical rains throughout this section, accurately forecast thirty-six hours in advance the additional changes that took place. On Sunday afternoon (11th) the statement was given the press and public that the maximum height of 27 feet would be reached Tuesday morning (13th), and at 7 a.m. of that date the stage was precisely 27 feet.

There was practically no damage sustained by the business concerns of this city on account of the flood, except the cost of removing goods to higher floors or other places of safety, pumping out basements, replacing merchandise, and a slight loss due to the interruption of business because of the inadequacy of railroad transportation. It is reported that only two or three basements in the west bottoms did not have water in them. There was water in the stockyards for several days, and it went over the streets and railroad tracks of Morris & Co's packing plant. The other packing houses have protected themselves with concrete walls. Armourdale, the southern portion of Kansas City, Kans., was protected by a dike which had been built since the flood of 1908. Harlem, directly north of Kansas City, Mo., on the north bank of the Missouri, was flooded, but the people moved their goods to places of safety, so that moving expenses covered their losses. The total damage by the flood in this immediate vicinity probably did not exceed $250,000.

The heavy loss this year fell upon those interested in bottom lands. About 20,000 acres of bottom land from a little above St. Joseph to Kansas City were overflowed. Seventy per cent of that area was devoted to wheat and corn, the remainder being pasture. About 80 per cent of the crops were lost.

Railroads centering in this city met with heavy losses by reason of roadbeds having been washed out by heavy rains in western Missouri and eastern Kansas. Train service was demoralized for several days.

THE FLOODS FROM KANSAS CITY TO ST. LOUIS, MO.

By O. C. BURROWS, Observer, Local Office, Weather Bureau, St. Louis, Mo.

At the beginning of July the Missouri was bank-full between Kansas City and Boonville. During the period from June 29 to July 8, inclusive, heavy rains fell in southeastern Nebraska, northeastern Kansas, southern Iowa, and western and northern Missouri, ranging in amounts from 6 to 12 inches. These rains caused rapid rises in all streams in the affected district, many streams becoming raging torrents, particularly the Grand River in northwestern Missouri, which reached the highest stage of recent years. Much of this flood water found its way to the Missouri and caused it to rise rapidly. It passed the flood stage at Glasgow on the 6th, Boonville on the 7th, and Hermann on the 9th. The river continued to rise rapidly for several days and reached the crest stage of 28.9 feet at Glasgow on the 11th, 28.3 feet at Boonville on the 13th, and 26.1 feet at Hermann on the 14th. Back water from the Missouri caused the Mississippi to rise to within 0.4 foot of the flood stage at Grafton and to above the flood stage at Alton. The Mississippi rose steadily below the mouth of the Missouri, passed the flood stage at St. Louis on the 11th and reached the crest stage of 35.5 feet on the evening of the 16th. The Missouri was above the flood stage at Glasgow and Boonville for 15 days and at Hermann for 10 days, while the Mississippi was above the flood stage at St. Louis for 11 days. The crest stages at Glasgow, Boonville, Hermann, and St. Louis were the highest reached since the flood of June, 1903, and except at St. Louis, were the highest of record for the month of July.

As is usual in such floods, an immense amount of property was destroyed. This was especially true in northwestern Missouri where railroad traffic was at a standstill for several days, as tracks were under water or washed away, and bridges washed out. The loss to the railroads, from suspension of business and damage to roadbeds and bridges, amounted to many thousands of dollars, but actual figures are not at hand and it will be some time before they are available.

Along the Missouri and Grand rivers it is estimated that about 700,000 acres, 400,000 acres of which were under cultivation, were inundated. There are no levees of importance

along these streams. Since the flood of 1903, the levee system on the Illinois side of the Mississippi River between Alton and Chester, Ill., protecting what is known as the Americans Bottoms, has been raised and strengthened. This afforded protection to much valuable land that would otherwise have been inundated as most of the levees in this system withstood the flood. The system, however, is still inadequate and a great deal of land in this district was submerged. It is estimated that about 300,000 acres of rich farm land were flooded between Hannibal and Chester. More than half of this district was under cultivation. The water extended back 8 or 10 miles to the bluffs in portions of the American Bottoms below St. Louis where there are no levees of importance. The total area submerged along the Missouri and its tributaries below Kansas City and along the Mississippi between Hannibal and Chester was approximately 1,000,000 acres, and more than half of this land was under cultivation. A number of towns and villages in this district were wholly or partially inundated, namely, Gault, Pattonsburg, Trenton, Gallatin, Barnard, Avenue City, Maryville, Chillicothe, and Cedar City, Mo., and East Alton, Venice, and Brooklyn, Ill. The overflowed district in St. Louis embraced some low bottom land in the northern portion of the city which is used as railroad yards, and Front street. The levees that protect East St. Louis, Granite City, and Madison, all held and no portion of these cities was under water. The loss in St. Louis, East St. Louis, Madison, and Granite City, was confined almost entirely to a suspension of business and to the expense necessitated by the removal of merchandise, and was, therefore, nominal.

It is estimated that the loss of, and damage to, property, including railroads, live stock, farm buildings, and farm machinery, for the entire district, amounted to about $700,000, and that the value of crops destroyed was about $5,500,000. The loss would have been greater had it not been for timely warnings issued by the Weather Bureau. These warnings were given wide dissemination through the press and by telegraph and afforded farmers an oportunity to save an immense amount of wheat which was ready to be harvested, and to remove portable property to places of safety. Corn and miscellaneous crops were a total loss in the affected district as the flood occurred so late in the summer that it will not be possible to replant any of the crops. It is roughly estimated that the warnings of the Weather Bureau were instrumental in saving property valued at $1,000,000. Farm land was probably damaged $100,000 by erosion and deposit, and the loss by suspension of business and for the protection of property was probably $150,000. As far as known, only four lives were lost.

The loss and damage resulting from the flood in the Missouri River is estimated at $7,000,000, and the value of property saved by the flood warnings of the Weather Bureau at considerably more than $1,000,000.

The flood in the upper Neosho River, July 11 to 15, inclusive, caused considerable damage, but owing to the efficient flood warning service in that vicinity, property to the amount of about $150,000 was saved. The unavoidable losses on the upper Neosho were as follows:

Loss and damage to property, including railroads and excluding crops	$250,000
Loss and damage to crops	735,000
Damage to farm lands by erosion	5,000
Loss through enforced suspension of business, etc...	9,000
Total	999,000

Warnings were promptly issued and well disseminated in ample time for precautions to be taken.

Unseasonably high water also prevailed during the month in the Mississippi River from below Keokuk, Iowa, to the mouth of the Missouri River. The river was above the flood stage at Hannibal, Mo., from the 7th to the 13th, inclusive, and damage to crops between Hannibal, Mo., and Quincy, Ill., to the extent of about $75,000 resulted. Other losses were of minor importance. Property to the value of probably $2,000 was saved by by the flood warnings of the Weather Bureau.

Exceptionally high water for the month of July also prevailed at Cairo, Ill., but the river did not reach flood stage, and no losses of importance resulted.

At Memphis, Tenn., conditions were much the same as at Cairo, Ill., although the river rose to slightly above the flood stage and remained so from the 21st to the 26th, inclusive. The rise at Memphis is remarkable for the fact that it reached the highest stage ever recorded in July, and with one exception, the highest on record for any month later than May. The previous highest stage for July was 31.5 feet in 1875, in which year the river also reached a stage of 33 feet in August. The condition of the ground in regard to dryness, low-water supply in the swamps and small streams, and evaporation played an important part in restraining the rise, or much higher stages would have been reached.

The flood which swept the valley of the Marais des Cygnes River in eastern Kansas and western Missouri during the early part of July did considerable damage to crops, but an estimate of the amount of loss is not available.

A severe local freshet occurred at Springfield, Mo., on July 7 and 8, in the Jordan River, a small stream that flows through that city. Excessive rains on the 7th and 8th, over Greene and Christian counties, caused that comparatively insignificant stream to become a raging torrent, and the resulting damage amounted to between $400,000 and $500,000. The greatest losses were sustained by farmers, railroad companies, wholesale firms, and the Springfield Water Works Company.

Another local freshet, somewhat similar to that at Springfield, Mo., occurred at Sioux City, Iowa, on July 9 to 12, caused by heavy rains over the watershed of Perry Creek, a small stream that flows into the Missouri River at Sioux City.

Hydrographs for typical points on seven rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a ——.

American philosophical society. Proceedings. Philadelphia. v. 48. May–June, 1909:

Hovey, Edmund Otis. Earthquakes: their causes and effects. p. 235–258.

Hobbs, William Herbert. The evolution and outlook of seismic geology. p. 259–302.

Reid, Harry Fielding. Seismological notes. p. 303–312.

American society of civil engineers. Proceedings. New York. v. 35. Aug., 1909.

Hammett, W. C., *and others.* The sewer system of San Francisco, and a solution of the storm-water flow problem. p. 790–811.

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C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be lent for a limited time to officials and employees who make application for them. Anonymous publications are indicated by a ——.

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CONDENSED CLIMATOLOGICAL SUMMARY.

TEMPERATURE AND PRECIPITATION BY SECTIONS, JULY, 1909.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations. Of course the number of such records is smaller than the total number of stations.

Section.	Temperature—in degrees Fahrenheit.							Precipitation—in inches and hundredths.					
	Section average.	Departure from the normal.	Monthly extremes.					Section average.	Departure from the normal.	Greatest monthly.		Least monthly.	
			Station.	Highest.	Date.	Station.	Lowest.	Date.			Station.	Amount.	Station.	Amount.
Alabama	79.3	− 0.3	Hamilton	101	30	Oneonta	50	25	4.52	− 0.29	Daphne	8.79	Talladega	0.79
			Pushmataha	101	16, 29									
Arizona	82.1	− 1.0	Mohawk Summit	120	1	Flagstaff, B	34	28	2.08	+ 0.24	Chlarsons Mill	6.11	Yuma	0.01
Arkansas	81.9	+ 1.7	Amity	106	31	Bergman	50	21	2.51	− 1.73	Hardy	6.94	Helena No. 1	0.65
California	71.2	− 2.3	Mammoth Tank	117	3 d't's	Tamarack, Towle	26	6	0.05	− 0.01	Monumental	1.60	Many stations	0.00
Colorado	67.9	+ 1.4	Las Animas	106	20	Breckenridge	22	12	2.23	+ 0.16	Wortman	6.84	Dunkley	0.26
Florida	80.9	− 0.4	Middleburg	102	5	Rockwell	60	29	11.25	+ 4.08	Rockwell	26.00	Key West	1.21
						Wausau	60	25						
Georgia	79.0	− 1.3	Blakeley	103	18	La Fayette	49	25	5.25	− 0.08	Quitman	11.12	Resaca	2.32
Hawaii	73.1	.....	Kihei, Maui	92	16	Humuula, Hawaii	37	5	6.17	.....	Hakalau, Hawaii	23.51	Kihei, Maui	0.00
Idaho	66.2	− 1.0	Glenns Ferry	110	23	Mackay	27	26	1.24	+ 0.38	Burke	4.60	3 Stations	T.
Illinois	73.4	− 2.1	Martinsville	102	29	Lanark	40	19	4.50	+ 0.58	Benton	12.45	St. Charles	0.33
Indiana	72.6	− 2.9	Huntingburg	99	30	Veedersburg	41	24	5.29	+ 2.45	Scottsburg	10.49	Auburn	1.69
Iowa	72.3	− 1.1	Elkader, Ridgeway	102	29	Washta	46	24	4.77	+ 0.33	Mount Ayr	12.20	Waterloo	1.20
Kansas	78.1	+ 0.3	Ashland	108	28	Blakeman, Densmor	47	23	6.05	+ 1.89	Osage City	18.67	Fargo	0.67
Kentucky	74.9	− 1.9	Calhoun, Hopk'ville	99	30	Greensboro	42	25	6.00	+ 1.81	Owenton	9.94	Marion	2.76
Louisiana	83.3	+ 1.9	Alexandria	103	14	Grand Cane	55	21	3.90	− 2.52	Franklin	8.29	Ruston	0.85
Maryland and Delaware	72.9	− 2.1	Great Falls, Md	99	29	Deer Park, Md	32	20	1.66	− 2.76	Easton, Md	4.92	Clear Spring, Md	0.20
Michigan	62.0	− 0.7	Powers	96	7	Humboldt	31	19	3.09	− 0.36	Ironwood	15.45	Manistee	0.25
			West Branch	96	29, 30									
Minnesota	69.2	− 0.1	Detroit	98	19	International Falls	38	3	3.84	− 0.48	Bagley	15.12	West Concord	0.22
Mississippi	82.0	+ 1.1	Duck Hill	102	5	Ripley	56	24	3.64	− 1.19	Bay St. Louis	10.18	Enid	0.63
			Natchez	102	15									
Missouri	76.7	− 0.2	Brunswick	102	18	Olden	41	20	6.41	+ 1.89	Amoret	15.25	Greenville	2.14
Montana	64.6	− 0.9	Forsyth	106	1	Nye	24	12	3.00	+ 1.73	Lonetree	8.75	Decker	T.
Nebraska	74.3	+ 0.4	Ewing	106	2	Canton	37	22	3.90	+ 0.42	St. Libory	9.96	Enderslake	0.34
			Tecumseh	106	29									
Nevada	69.5	− 1.3	Logan	116	1	Hamilton	23	6	0.14	− 0.20	Columbia	0.85	13 stations	0.00
New England*	67.2	− 1.8	W. Ossipee, N. H.	100	27	W. Ossipee, N. H.	30	9	2.19	− 1.70	Patten, Me.	6.42	Fall River, Mass.	0.43
New Jersey	71.6	− 2.5	Bridgeton	99	30	Layton	36	5	2.12	− 2.73	New Brunswick	4.03	Long Branch	1.03
New Mexico	73.2	+ 1.3	Carlsbad, Deming	110	11, 12	Manuelito	35	12, 19	2.14	− 0.33	Elk (near)	5.84	Los Lunas (near)	T.
New York	67.3	− 2.0	Addison	98	9	Gabriels	30	9	2.88	− 1.64	Lockport	5.69	Chazy	1.00
			Bedford	98	30	Indian Lake	30	9						
North Carolina	75.9	− 2.4	3 stations	97	3 d't's	Mount Airy	44	20	5.72	− 0.30	Greenville	14.20	Eagletown	2.13
North Dakota	67.1	− 0.3	Ellendale	99	19	Medora	34	4†	2.89	+ 0.22	Lisbon	6.82	Broncho	0.41
Ohio	70.7	− 3.1	New Alexandria	97	30	Garrettsville	40	5	3.76	− 0.34	Springfield	7.27	2 stations	1.31
						New Alexandria	40	8						
Oklahoma	83.7	+ 3.3	Cloudchief	111	12	Hooker	52	13	2.13	− 0.90	Newkirk	6.56	Holdenville	0.00
						Meeker	52	24						
Oregon	62.5	− 2.8	Echo	106	21	Christmas Lake	20	18	1.20	+ 0.76	Headworks	4.93	Riverside	0.05
			Vale	106	2									
Pennsylvania	69.7	− 2.3	Lock Haven	98	15	Pocono Lake	34	9	2.14	− 2.31	Aleppo	4.50	Williamsport	0.75
			Marion	98	30									
Porto Rico	78.7	− 0.1	Juana Diaz	99	10	Jayuya, Maricao	59	4 d't's	5.51	− 1.60	Las Marias	13.53	Isolina	1.93
South Carolina	78.5	− 1.4	Florence	104	13	Dillon	55	21	4.92	− 0.40	Yemassee	9.58	Dillon	1.71
South Dakota	71.0	− 0.4	Ganvalley	105	2	Deadwood	40	14	3.07	+ 0.22	Vermilion	7.15	Kennebec	0.41
						Highmore	40	12						
Tennessee	76.7	− 0.6	Jackson	101	29	Mountain City	40	20	4.57	+ 0.45	Clinton	11.93	Memphis	1.09
Texas	85.0	+ 2.6	Barstow	110	11, 12	Plemons	53	13	2.40	− 0.39	Kerrville	9.81	2 stations	T.
			Fort Stockton	110	11									
Utah	71.1	− 0.9	Experiment Farm	110	1	Lucin	30	28	1.17	+ 0.54	Scofield	4.12	Castle Dale	T.
						Snowville	30	6						
Virginia	72.8	− 2.9	Lincoln	100	29	Burkes Garden	36	20	3.16	− 1.54	Radford	6.82	Charlottesville	0.54
Washington	63.9	− 2.6	Zindel	107	22	Northport	30	19	1.49	+ 0.83	Irene Mountain	3.61	Touchet	0.11
						Wilbur	30	17						
West Virginia	70.2	− 3.4	4 stations	96	3 d't's	Bayard	36	20	4.17	− 0.38	Beckley	10.50	Harpers Ferry	0.60
Wisconsin	68.6	− 1.4	Prairie du Chien,	103	29	Herbster	30	3	2.71	− 1.28	Vudesare	10.24	Lake Mills	0.09
Wyoming	65.2	+ 0.8	Basin, Gillette	110	17	Fount'n Hot 'l, Y.P.	25	12	1.39	− 0.04	Phillips	4.22	Green River	0.02

*Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. †Other dates also.

TABLE I.—*Climatological data for U. S. Weather Bureau stations, July, 1909.*

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.					Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
New England.							67.3	— 1.5									73			1.83	— 1.7								4.9		
Eastport	76	67	85	29.78	29.86	— .07	60.0	+ 0.2	85	28	69	45	8	51	31	55	52	81	3.37	0.0	12	6,096	s.	30	e.	3	4	15	12	6.6	
Greenville	1,070	6	....	28.73	29.88	.....	61.7	.....	85	28	72	35	7	51	38	.....	.....	.....	3.34	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portland, Me	103	81	117	29.77	29.89	— .06	66.4	— 1.6	91	30	75	50	9	58	27	59	55	70	2.14	— 1.1	11	6,629	s.	39	nw.	8	13	13	5	4.7	
Concord	288	70	79	29.58	29.88	— .08	67.0	— 2.1	91	29	79	43	5	55	36	.....	.....	.....	2.14	— 1.6	8	3,884	nw.	30	n.	8	7	20	4	5.5	
Burlington	404	11	48	29.45	29.87	— .07	66.4	— 1.8	88	15	76	45	9	57	30	.....	.....	.....	4.06	+ 0.3	14	7,991	s.	39	s.	15	6	14	11	6.0	
Northfield	876	16	70	28.97	29.90	— .04	62.8	— 3.8	86	29	75	39	9	51	36	59	55	74	2.53	— 1.2	14	5,971	sw.	36	nw.	8	7	17	7	5.7	
Boston	125	115	188	29.78	29.91	— .05	71.5	+ 0.2	95	30	80	53	9	63	27	63	58	67	0.97	— 2.4	5	7,170	w.	32	n.	8	8	18	5	5.1	
Nantucket	12	14	90	29.91	29.92	— .06	66.9	— 0.6	82	15	73	54	10	61	18	63	60	83	0.98	— 1.7	7	10,345	sw.	47	n.	8	13	15	3	4.5	
Block Island	26	11	46	29.90	29.93	— .04	67.8	— 0.3	84	30	74	54	9	62	18	62	60	81	0.93	— 2.4	5	10,436	sw.	36	nw.	3	26	2	3	2.5	
Narragansett	.....	9	.....	.....	.....	.....	66.8	— 3.1	87	30	76	46	5	58	29	.....	.....	.....	1.16	.....	6	.....	s.	.....	.....	.....	26	2	3	.....	
Providence	160	141	165	29.76	29.93	— .04	70.2	— 3.2	94	30	80	51	9	60	26	62	57	67	0.58	— 2.8	5	7,572	nw.	40	nw.	3	14	13	4	4.4	
Hartford	159	122	140	29.75	29.92	— .05	70.8	— 0.8	93	30	81	51	9	60	28	62	56	64	1.59	— 2.5	7	6,073	s.	28	nw.	8	10	17	4	4.9	
New Haven	106	116	155	29.81	29.92	— .05	71.0	— 0.9	93	30	80	53	9	62	28	62	57	66	1.43	— 3.4	5	6,426	s.	37	w.	18	16	13	2	3.5	
Mid. Atlantic States.							72.8	— 1.6									67			1.94	— 2.5								4.3		
Albany	97	102	115	29.81	29.91	— .05	70.8	— 1.2	91	30	81	50	9	60	30	62	56	62	1.74	— 2.2	7	5,920	s.	29	ne.	8	9	19	3	4.6	
Binghamton	871	78	90	29.03	29.94	— .03	67.4	— 2.5	89	15	79	43	5	56	36	.....	.....	.....	1.07	— 2.5	6	4,210	nw.	21	nw.	8	8	9	14	5.8	
New York	314	108	350	29.60	29.93	— .05	73.4	— 0.1	92	30	81	58	4	66	24	64	59	66	1.98	— 2.6	5	7,922	s.	46	nw.	30	13	13	5	4.2	
Harrisburg	374	94	104	29.57	29.96	— .02	73.4	— 1.1	94	30	83	54	5	64	30	62	56	57	0.86	— 3.0	4	4,778	nw.	32	sw.	18	11	14	6	4.6	
Philadelphia	117	116	184	29.84	29.96	— .02	75.3	— 0.5	95	30	84	59	4	67	24	65	59	61	2.19	— 2.1	4	6,653	nw.	44	nw.	16	13	15	3	4.3	
Scranton	805	111	119	29.10	29.95	— .03	69.4	— 2.4	91	29	81	46	5	58	35	61	56	63	2.23	— 1.6	7	4,756	sw.	33	sw.	18	8	18	5	5.1	
Atlantic City	52	37	48	29.90	29.95	— .03	71.8	— 0.7	92	30	79	52	5	65	25	65	62	75	1.37	— 2.4	9	5,179	sw.	25	se.	23	12	10	9	4.9	
Cape May	17	48	52	29.96	29.98	.00	71.6	— 1.8	91	30	78	60	5	66	21	66	.....	.....	1.39	— 2.4	9	5,142	s.	27	s.	23	12	16	3	4.1	
Baltimore	123	100	113	29.83	29.95	— .03	76.0	— 1.3	94	30	85	58	5	67	25	65	60	60	1.31	— 3.5	5	5,110	sw.	27	sw.	18	12	14	5	4.5	
Washington	112	62	85	29.84	29.96	— .04	74.7	— 2.1	96	29	85	53	5	64	30	65	60	64	1.80	— 2.8	10	4,343	nw.	24	sw.	30	15	14	2	4.2	
Cape Henry	18	9	58	29.95	29.97	— .02	75.6	— 1.9	93	30	83	60	8	68	23	.....	.....	.....	3.93	— 1.9	10	8,620	sw.	42	n.	4	16	8	7	4.1	
Lynchburg	681	83	88	29.27	30.00	— .01	74.2	— 3.1	93	31	85	53	20	64	32	67	63	70	1.85	— 2.2	8	2,621	nw.	29	n.	1	13	16	2	3.7	
Mount Weather	1,725	10	54	28.19	29.95	— .04	69.6	— 1.8	89	29	78	48	4	61	23	61	57	69	0.97	— 3.7	5	8,628	nw.	49	nw.	24	16	12	3	3.8	
Norfolk	91	102	111	29.89	29.98	— .02	76.4	— 2.0	94	31	84	62	8	68	24	68	65	75	4.41	— 1.4	11	6,256	s.	41	sw.	16	16	9	6	4.3	
Richmond	144	145	153	29.84	29.99	— .02	76.8	— 2.4	96	31	86	59	4	67	26	.....	.....	.....	1.25	— 3.2	5	5,749	s.	26	nw.	18	22	5	4	3.4	
Wytheville	2,293	40	47	27.68	29.99	— .02	67.8	— 4.8	86	2	78	46	20	57	34	64	62	83	2.67	— 1.8	13	2,996	w.	19	w.	23	17	11	3	3.3	
S. Atlantic States.							77.4	— 1.6									71			4.92	— 1.2								5.2		
Asheville	2,255	53	75	27.72	30.00	— .02	70.0	— 1.7	87	15	79	52	20	60	27	66	65	89	5.54	+ 0.7	15	4,100	nw.	27	n.	3	9	10	12	5.9	
Charlotte	773	68	76	29.19	30.01	— .01	76.2	— 2.5	92	3	85	61	20	68	23	68	64	71	2.70	— 2.8	14	4,141	sw.	24	w.	22	5	21	5	5.6	
Hatteras	11	12	47	29.99	30.00	— .01	76.6	— 2.0	86	2	82	64	21	71	20	72	70	83	2.50	— 3.6	13	10,512	sw.	39	sw.	23	17	11	3	3.4	
Manteo	12	12	46	.....	.....	.....	76.0	.....	90	15	83	58	21	69	.....	.....	.....	.....	8.52	+ 2.4	8	.....	ne.	.....	.....	.....	22	5	4	.....	
Raleigh	376	103	110	29.60	29.99	— .03	75.6	— 2.9	93	3	85	60	20	66	25	68	64	73	6.84	+ 0.7	10	4,986	sw.	32	w.	31	13	10	8	4.8	
Wilmington	78	81	91	29.93	30.01	.00	77.0	— 1.7	90	14	84	62	5	70	23	71	68	77	2.97	— 4.0	11	5,896	sw.	29	sw.	23	11	15	5	4.7	
Charleston	48	14	92	29.96	30.01	— .02	80.2	— 1.1	94	3	86	69	10	74	20	73	70	76	4.17	— 3.1	13	8,277	s.	33	ne.	17	9	18	4	5.1	
Columbia, S. C	351	41	57	29.62	29.99	— .03	78.4	— 2.7	96	3	88	63	9	69	25	70	67	73	3.08	— 3.0	12	4,659	sw.	24	sw.	23	7	15	9	5.6	
Augusta	180	89	97	29.80	29.99	— .03	79.5	— 1.0	96	3	88	64	8	71	23	71	68	75	2.63	— 2.7	13	4,149	s.	31	sw.	23	6	16	9	5.8	
Savannah	65	81	89	29.94	30.01	— .02	80.2	— 0.7	96	7	88	67	29	73	22	73	71	79	6.43	+ 0.2	13	8,344	s.	46	e.	8	5	18	8	5.8	
Jacksonville	43	96	129	29.96	30.01	— .02	80.8	— 0.1	94	4	88	70	29	74	22	75	74	86	8.43	+ 2.2	20	6,853	sw.	55	sw.	18	4	20	7	5.7	
Florida Peninsula.							81.3	— 0.2									82			5.24	0.0								5.8		
Jupiter	28	10	46	30.00	30.03	.00	80.6	— 0.4	92	8	87	70	24	74	19	76	74	83	6.61	+ 1.2	19	6,528	sw.	36	sw.	3	7	19	5	5.3	
Key West	22	10	53	30.00	30.02	— .01	83.0	— 0.7	90	30	88	74	17	78	16	77	75	79	1.21	— 2.4	8	5,897	e.	33	se.	18	1	19	11	6.5	
Sand Key	25	41	71	29.97	30.00	— .03	81.8	.....	88	12	84	69	18	79	16	.....	.....	.....	2.65	— 0.9	5	8,703	e.	52	se.	17	7	17	7	5.4	
Tampa	35	79	96	30.00	30.02	— .02	80.4	+ 0.4	93	20	87	69	20	74	24	75	73	84	10.47	+ 2.0	17	5,149	e.	36	w.	3	7	13	11	6.1	
East Gulf States.							80.5	+ 0.3									79			4.49	— 0.8								5.8		
Atlanta	1,174	190	216	28.80	30.01	— .01	77.2	— 0.4	92	29	85	62	9	69	23	70	67	77	2.52	— 2.2	9	6,950	e.	48	w.	7	11	12	8	5.2	
Macon	370	78	87	29.60	29.99	— .03	79.8	+ 0.1	97	3	88	64	25	71	26	.....	.....	.....	4.54	— 0.1	12	4,086	sw.	32	nw.	7	7	15	9	5.9	
Thomasville	273	8	57	29.71	30.00	— .03	80.4	— 1.4	95	3	89	65	26	72	27	74	73	86	6.47	+ 1.2	17	3 503	sw.	21	sw.	31	5	17	9	5.8	
Pensacola	56	79	96	29.94	30.00	— .01	81 5	+ 0.1	91	1	87	71	30	76	16	.....	.....	.....	4.54	— 2.7	9	8,572	sw.	46	nw.	9	2	18	11	6.6	
Anniston	741	9	57	29.24	30.02	.00	77.6	— 0.3	95	3	87	55	25	68	29	.....	.....	.....	4.65	— 0.1	11	3,312	sw.	35	nw.	13	8	6	17	6.9	
Birmingham	700	11	48	29.26	30.01	.00	79.2	— 2.3	94	3	88	61	25	70	25	72	70	79	4.92	+ 0.2	8	3,876	s.	20	n.	7	3	26	2	5.2	
Mobile	57	98	106	29.93	29.99	— .02	82.7	+ 2.2	98	4	90	68	25	75	22	75	73	78	8.28	+ 1.2	15	5,011	sw.	33	n.	19	6	20	5	5.8	
Montgomery	223	100	112	29.76	30.00	— .02	81.0	0.0	96	3	90	65	25	72	23	73	71	77	4.21	— 0.5	11	4,007	s.	28	n.	17	9	15	7	5.6	
Meridian	375	84	93	29.59	29.97	— .05	80.8	+ 0.8	95	3	90	61	25	71	27	75	70	76	2.46	— 2.0	8	3,320	sw.	22	nw.	15	6	21	4	5.2	
Vicksburg	247	62	74	29.71	29.98	— .02	82.5	+ 2.1	97	3	91	68	9	74	24	74	72	76	1.97	— 2.4	5	4,427	sw.	37	w.	9	7	20	4	5.1	
New Orleans	51	90	121	29.93	29.98	— .02	83.2	+ 1.9	96	4	90	72	30	76	18	76	74	81	4.85	— 1.6	14	5,351	w.	30	n.	14	4	15	12	6.2	
West Gulf States.							84.0	+ 2.2									71			1.39	— 1.9								3.3		
Shreveport	249	77	84	29.70	29.96	— .02	84.4	+ 2.3	100	13	94	70	25	75	26	75	71	70	1.42	— 2.3	4	4,395	sw.	30	ne.	31	20	6	5	3.2	
Bentonville	1303	11	44	28.62	29.96	— .01	79.4	+ 0.9	98	30	90	55	24	68	35	.....	.....	.....	2.22	— 2.1	7	3,554	s.	22	w.	15	21	9	1	2.7	
Fort Smith	457	79	94	29.46	29.93	— .04	83.2	+ 2.2	100	30	93	65	24	73	27	73	69	65	2.74	— 1.1	4	4,899	e.	36	e.	14	21	8	2	2.6	
Little Rock	357	139	147	29.59	29.96	— .03	82.4	+ 1.8	98	31	92	66	20	73	28	73	69	68	1.23	— 2.8	7	6,131	sw.	35	sw.	15	18	11	2	3.2	
Brownsville	57	4	.....	.....	.....	.....	.....	.....	99	21	.....	72	30	.....	.....	.....	.....	.....	1.60	.....	4	.....	s.	.....	.....	.....	.....	.....	.....	.....	.....	
Corpus Christi	20	69	77	29.91	29.93	— .03	83.5	+ 0.8	92	21	88	75	31	79	15	77	76	81	0.37	— 1.3	4	10,639	se.	44	e.	1	18	11	2	3.5	
Fort Worth	670	106	114	29.24	29.93	— .03	87.4	+ 3.7	104	11	97	72	21	78	26	.....	.....	.....	0.02	— 3.0	1	8,284	s.	31	se.	18	22	9	0	2.6	
Galveston	54	106	112	29.92	29.98	.00	84.0	+ 1.0	91	20	88	72	21	80	12	77	75	77	0.61	— 3.4	3	8,215	se.	68	e.	21	15	13	3	3.8	
Palestine	510	73	79	29.42	29.93	— .04	84.3	+ 2.8	99	15	94	70	17	74	24	74	70	69	0.80	— 2.2	4	5,649	s.	25	e.	21	7	16	8	5.5	
San Antonio	701	80	91	29.19	29.90	— .05	85.8	+ 3.4	102	3	97	70	22	75	27	74	70	68	3.27	+ 1.0	5	5,273	se.	28	ne.	3	15	15	1	3.8	
Taylor	583	55	63	29.34	29.95	— .01	85.4	+ 2.7	101	15	96	67	22	75	26	.....	.....	.....	1.23	— 1.4	4	7,341	s.	42	e.	22	23	7	1	2.5	
Ohio Val. and Tenn.							74.3	— 2.5									72			4.62	+ 0.5								5.1		
Chattanooga	762	106	112	29.22	30.01	— .01	76.8	— 1.0	93	29	86	60	25	68	24	69	66	75	4.61	+ 0.7	10	4,123	sw.	32	sw.	5	8	15	8	5.4	
Knoxville	996	93	100	28.95	29.98	— .04	75.1	— 1.1	92	3	84	59	25	66	25	68	66	78	7.01	+ 2.8	14	3,187	sw.	27	nw.	29	8	11	12	5.8	
Memphis	399	76	97	29.57	29.98	— .02	81.4	+ 0.7	94	3	89	64	20	74	24	73	69	69	1.09	— 2.4	5	5,768	sw.	48	nw.	15	13	9	9	4.8	
Nashville	546	168	191	29.42	29.99	— .02	77.6	— 1.8	93	2	86	58	25	69	28	71	68	76	4.93	+ 0.6	9	5,643	w.	48	nw.	7	9	14	8	4.8	
Lexington	989	75	102	28.95	29.99	— .02	72.7	— 3.9	89	22	81	55	4	64	25	.....	.....	.....	5.98	+ 1.5	18	5,722	sw.	38	nw.	12	15	12	4	3.5	
Louisville	525	111	132	29.42	30.00	.00	76.0	— 2.6	96	29	85	59	4	67	28	68	64	70	7.23	+ 3.5	12	5,239	ne.	44	e.	30	8	10	13	5.1	
Evansville	431	72	82	29.50	29.96	— .04	76.4	— 2.9	95	2	85	59	4	68	28	.....	.....	.....	5.73	+ 1.9	8	4,553	ne.	32	w.	12	11	15	5	5.1	
Indianapolis	822	154	164	29.12	29.99	.00	72.2	— 4.0	92	30	81	55	24	64	24	65	61	70	5.42	+ 1.3	13	6,189	ne.	38	nw.	29	9	13	9	5.7	
Cincinnati	628	152	160	29.32	29.99	— .01	74.0	— 3.7	94	29	83	56	24	65	23	66	62	69	3.83	+ 0.3	12	4,228	se.	33	nw.	12	8	14	9	5.7	
Columbus	824	173	222	29.13	29.99	— .01	72.0	— 3.3	91	29	82	54	4	62	24	63	59	68	3.34	— 0.3	14	6,903	sw.	64	w.	12	11	10	10	5.4	
Pittsburg	842	336	352	29.09	29.97	— .03	71.2	— 3.4	88	1	80	50	4	62	28	62	57	63	1.22	— 3.2	9	6,654	nw.	42	w.	12	9	16	6	5.1	
Parkersburg	638	77	84	29.35	30.00	— .01	72.4	— 3.2	90	30	82	51	20	62	32	66	63	76	4.78	+ 0.1	14	3,439	s.	32	nw.	12	16	8	7	4.4	
Elkins	1,940	41	50	28.01	30.00	— .01	67.8	— 2.7	86	1	80	44	20	56	37	61	59	79	4.85	+ 0.2	14	2,057	w.	17	w.	23	10	13	8	5.2	
Lower Lake Region.							69.2	— 2.3									68			3.72	+ 0.3								4.6		
Buffalo	767	178	206	29.12	29.93	— .04	68.6	— 1.6	83	11	75	52	24	62	22	62	59	72	2.49	— 0.9	10	9,703	sw.	48	sw.	12	12	12	7	4.7	
Canton	448	10	71	29.42	29.88	.....	66.0	— 4.5	88	15	76	42	9	56	36	.....	.....	.....	3.35	+ 0.1	16	7,326	sw.	44	sw.	13	12	11	8	5.0	
Oswego	335	76	91	29.55	29.91	— .05	66.6	— 3.0	85	12	74	51	9	59	23	61	57	73	4.39	+ 1.2	9	6,797	w.	32	n.	18	11	13	7	4.7	
Rochester	523	86	102	29.38	29.94	— .03	69.2	— 1.2	89	12	79	50	5	60	30	60	55	65	3.49	+ 0.4	12	6,045	sw.	30	w.	18	12	10	9	4.9	
Syracuse	597	97	113	29.28	29.92	— .05	68.4	— 2.4	88	15	77	50	9	60	30	.....	.....	.....	1.72	— 2.0	9	8,716	s.	36	nw.	3	9	13	9	5.4	
Erie	714	92	102	29.20	29.95	— .03	69.2	— 2.6	89	12	76	52	5	62	22	62	57	66	2.46	— 0.8	9	6,887	w.	31	w.	12	11	14	6	5.3	
Cleveland	762	190	201	29.16	29.97	— .02	69.8	— 2.7	91	12	77	52	5	63	24	63	58	69	3.12	— 0.4	9	9,777	se.	57	w.	12	12	14	5	4.4	
Sandusky	629	62	70	29.30	29.97	— .02	71.8	— 1.8	93	12	80	57	5	64	25	.....	.....	.....	6.52	+ 2.7	10	5,643	sw.	36	n.	23	13	11	7	3.9	
Toledo	628	207	246	29.30	29.97	— .02	71.6	— 2.1	90	12	81	54	4	62	23	64	60	68	3.67	+ 0.4	11	9,224	sw.	56	s.	2	19	11	1	3.4	
Detroit	730	218	258	29.19	29.96	— .02	71.2	— 0.8	90	12	80	54	4	62	24	63	58	66	5.94	+ 2.5	9	9,003	s.	60	sw.	2	13	12	6	4.5	

TABLE I.—*Climatological data for U. S. Weather Bureau stations, July, 1909*—Continued.

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.										Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.					Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.					
Upper Lake Region.							67.4	− 0.4											70	3.55	+ 0.4									4.6	
Alpena	609	13	92	29.28	29.95	− .02	66.8	+ 1.0	93	29	78	43	4	55	31	59	55	70	2.37	− 0.7	11	7,632	nw.	38	w.	12	10	14	7	4.9	
Escanaba	612	40	82	29.30	29.94	− .03	65.1	− 1.4	87	29	74	46	4	56	25	60	56	72	6.19	+ 2.8	12	6,584	s.	34	w.	12	14	10	7	4.1	
Grand Haven	632	54	92	29.29	29.95	− .03	67.0	− 2.7	84	28	76	48	4	58	28	61	57	71	0.76	− 1.8	6	7,457	nw.	35	w.	2	15	14	2	3.8	
Grand Rapids	707	127	162	29.21	29.96	− .02	71.1	− 1.5	91	28	82	47	4	60	28	62	56	62	0.96	− 1.7	6	6,982	sw.	34	sw.	2	9	14	8	4.8	
Houghton	668	66	74	29.22	29.94	− .02	65.3	0.0	85	28	75	47	3	56	27	.....	.....	.....	7.75	+ 4.6	13	4,699	w.	33	n.	2	15	8	8	4.3	
Marquette	734	77	116	29.17	29.96	.00	65.0	+ 0.1	89	9	73	46	2	57	28	58	54	71	4.57	+ 1.5	13	6,948	nw.	40	w.	12	14	9	8	4.5	
Port Huron	638	70	120	29.27	29.95	− .03	68.2	− 0.8	91	12	78	48	4	59	29	62	57	67	1.25	− 1.5	7	7,341	sw.	46	n.	23	9	14	8	5.2	
Sault Sainte Marie	614	40	61	29.26	29.95	− .02	63.0	+ 1.1	84	27	74	45	5	52	31	58	54	75	3.50	+ 0.8	10	5,649	w.	31	nw.	1	11	13	7	5.0	
Chicago	823	140	310	29.11	29.98	.00	72.3	− 0.1	92	29	79	55	3	66	32	64	59	65	1.77	− 1.9	8	8,756	ne.	42	nw.	22	9	13	9	5.5	
Milwaukee	681	122	139	29.26	29.99	+ .02	70.2	+ 0.5	95	29	78	53	4	62	35	63	59	71	1.62	− 1.4	5	6,453	ne.	58	nw.	2	20	9	2	3.1	
Green Bay	617	49	86	29.28	29.94	− .03	70.4	+ 0.9	95	29	81	50	3	59	35	62	58	67	1.04	− 2.5	6	6,625	sw.	48	n.	22	9	11	11	5.7	
Duluth	1,133	11	47	28.75	29.95	.00	64.0	− 2.0	84	28	73	46	3	55	29	61	59	84	10.83	+ 7.2	11	7,599	ne.	41	sw.	9	15	7	9	4.5	
North Dakota.							63.3	− 0.8											76	2.36	− 0.6									4.4	
Moorhead	940	8	57	28.93	29.92	− .02	69.0	+ 0.3	92	19	80	50	3	58	30	64	61	78	2.92	− 0.8	9	4,978	se.	24	se.	19	17	13	1	3.0	
Bismarck	1,674	8	57	28.18	29.93	.00	69.5	− 0.7	94	18	81	48	16	58	35	64	59	73	2.41	+ 0.3	11	7,563	nw.	50	nw.	27	14	10	7	4.6	
Devils Lake	1,482	11	44	28.35	29.90	− .03	66.9	− 1.2	89	31	77	47	3	57	31	61	59	79	2.56	− 1.2	11	7,221	se.	38	w.	28	12	13	6	4.5	
Williston	1,872	14	56	27.93	29.86	− .06	67.7	− 1.7	93	18	79	48	10	57	36	62	58	74	1.57	− 0.5	10	7,085	se.	44	w.	11	13	7	11	5.3	
Upper Miss. Valley.							73.0	− 2.4											72	3.73	+ 0.1									4.9	
Minneapolis	918	102	208	.....	.....	.....	71.6	.....	92	2	81	54	3	62	32	.....	.....	.....	5.03	+ 1.2	4	7,895	w.	36	nw.	22	16	7	8	4.0	
St. Paul	837	171	179	29.06	29.95	.00	70.8	− 1.3	92	2	80	55	5	62	32	63	59	68	3.66	+ 0.3	6	6,613	s.	35	sw.	12	14	12	5	3.9	
La Crosse	714	11	48	29.19	29.94	− .02	71.8	− 0.8	96	2	83	52	24	61	34	.....	.....	.....	0.66	− 3.4	5	3,413	s.	20	nw.	22	10	11	10	5.3	
Madison	974	70	78	28.95	29.97	.00	70.4	− 2.0	95	29	80	53	4	61	32	62	57	65	0.29	− 3.7	4	5,941	sw.	38	ne.	2	10	14	7	5.3	
Charles City	1,015	10	49	28.91	29.96	.00	70.6	− 2.9	93	2	80	53	5	61	32	65	63	77	1.68	− 1.9	9	4,374	sw.	24	sw.	21	6	13	12	6.3	
Davenport	606	71	79	29.31	29.96	− .01	72.6	− 2.8	96	29	81	52	5	64	24	65	62	71	4.68	+ 1.1	14	5,096	e.	26	s.	10	15	8	8	4.5	
Des Moines	861	84	101	29.05	29.94	− .02	72.9	− 2.6	96	29	82	54	4	64	25	67	64	76	4.41	+ 0.6	14	4,898	nw.	26	n.	17	8	12	11	5.9	
Dubuque	698	100	115	29.25	29.98	+ .01	71.8	− 2.9	96	29	81	53	5	63	28	64	60	68	1.30	− 3.0	8	4,393	nw.	24	nw.	22	14	9	8	5.1	
Keokuk	614	64	78	29.31	29.97	− .01	74.6	− 2.4	93	29	84	54	4	66	27	67	64	73	5.46	+ 1.4	10	4,147	e.	20	nw.	6	13	11	7	4.5	
Cairo	356	87	93	29.59	29.96	− .04	79.0	+ 0.4	94	6	87	63	26	71	25	71	67	72	3.13	− 0.3	7	5,354	s.	30	nw.	7	15	7	9	4.4	
La Salle	536	56	64	29.42	29.98	+ .01	71.8	− 3.5	95	29	82	49	4	62	31	.....	.....	.....	2.52	− 0.8	10	5,046	sw.	22	sw.	22	12	12	7	5.0	
Peoria	609	11	45	29.33	29.99	+ .01	71.4	− 4.0	94	29	82	47	19	61	34	66	62	74	4.57	+ 1.6	9	4,513	e.	24	sw.	22	13	12	6	4.3	
Springfield, Ill	644	10	91	29.29	29.96	− .02	73.6	− 2.9	94	2	83	51	4	64	30	67	63	72	6.47	+ 3.6	11	5,360	s.	34	nw.	12	14	7	10	4.8	
Hannibal	534	75	109	29.39	29.95	− .03	74.3	− 3.1	93	2	84	57	4	65	27	.....	.....	.....	4.73	+ 1.0	9	5,437	sw.	26	nw.	12	12	10	9	4.9	
St. Louis	567	208	217	29.36	29.95	− .04	77.0	− 2.1	96	2	85	57	4	69	24	69	65	67	7.34	+ 3.9	13	6,484	se.	44	n.	12	10	16	5	4.7	
Missouri Valley.							75.1	− 0.6											70	5.06	+ 1.2									4.2	
Columbia, Mo	784	11	84	29.15	29.95	− .03	75.2	− 2.2	93	6	85	56	24	65	30	.....	.....	.....	4.78	+ 1.1	14	4,235	e.	54	n.	12	13	9	9	4.3	
Kansas City	963	161	181	28.92	29.92	− .05	77.8	+ 0.2	94	3	86	63	12	70	23	70	66	72	6.34	+ 1.5	12	7,096	s.	52	n.	12	15	11	5	4.1	
Springfield, Mo	1,324	98	104	28.59	29.96	− .02	76.8	+ 0.4	92	12	86	59	23	68	27	70	67	75	9.51	+ 4.7	12	6,206	se.	27	ne.	7	21	9	1	2.5	
Iola	984	11	50	28.92	29.93	− .04	78.6	+ 0.5	95	3	88	58	24	69	27	.....	.....	.....	5.15	+ 1.2	11	4,254	se.	33	n.	31	13	14	4	4.0	
Topeka	983	85	101	.....	.....	.....	78.0	+ 0.4	97	29	88	60	24	68	29	.....	.....	.....	11.60	+ 6.8	13	5,764	se.	43	nw.	12	18	9	4	3.3	
Lincoln	1,189	11	84	28.69	29.92	− .03	76.2	− 0.2	96	2	86	55	24	66	30	68	65	75	4.87	+ 1.0	8	5,851	s.	41	sw.	9	12	10	9	5.6	
Omaha	1,105	115	121	28.78	29.93	− .02	75.6	− 0.9	94	2	84	58	23	67	24	68	65	74	4.40	+ 0.1	11	4,793	s.	38	n.	30	13	10	8	4.9	
Valentine	2,598	47	54	27.28	29.94	+ .01	73.4	+ 0.2	99	20	86	49	23	61	35	63	57	64	1.62	− 1.8	4	7,802	s.	40	sw.	27	19	12	0	3.2	
Sioux City	1,135	96	164	28.75	29.94	− .01	72.2	− 2.0	96	2	81	54	24	64	27	.....	.....	.....	4.09	+ 0.5	10	7,785	s.	38	n.	30	15	4	12	5.1	
Pierre	1,572	70	75	28.28	29.91	− .02	75.0	− 0.2	102	19	87	55	15	63	33	63	56	58	0.73	− 1.6	6	8,292	e.	48	w.	12	17	10	4	3.6	
Huron	1,306	56	67	28.58	29.95	+ .01	70.4	− 1.1	95	20	81	50	23	60	36	64	61	75	2.42	− 0.5	13	7,757	se.	69	nw.	30	17	9	5	3.9	
Yankton	1,233	49	57	28.63	29.92	− .02	72.2	− 2.4	97	2	82	54	24	63	30	.....	.....	.....	5.24	+ 1.7	11	5,506	ne.	35	nw.	9	10	12	9	5.6	
Northern Slope.							65.0	− 0.1											61	2.41	+ 0.8									3.5	
Havre	2,505	11	44	27.30	29.88	− .03	67.4	− 0.7	94	16	79	47	14	56	38	60	57	73	3.88	+ 2.0	14	5,690	e.	36	sw.	20	19	7	5	3.9	
Miles City	2,371	26	48	27.41	29.90	− .02	74.5	+ 1.6	105	1	88	49	15	61	40	63	57	61	2.63	+ 1.3	9	4,470	e.	36	w.	20	17	13	1	3.0	
Helena	4,110	8	56	25.79	29.90	− .03	65.6	− 1.0	95	16	79	46	21	53	41	54	48	62	1.84	+ 0.8	9	4,816	sw.	37	w.	10	17	9	5	3.8	
Kalispell	2,962	11	34	26.90	29.90	− .03	62.2	− 2.1	89	4	76	38	8	49	40	53	46	62	3.07	+ 2.2	8	3,570	w.	19	sw.	5	14	10	7	4.1	
Rapid City	3,234	46	50	26.60	29.93	.00	70.9	+ 0.7	96	18	83	50	12	58	35	60	54	61	1.80	− 0.8	9	5,301	se.	38	nw.	11	20	8	3	2.8	
Cheyenne	6,088	56	64	24.09	29.91	− .01	68.0	+ 0.6	93	17	82	44	13	54	37	55	48	56	1.08	− 0.9	6	6,100	s.	36	sw.	20	17	14	0	3.3	
Lander	5,372	26	36	24.68	29.88	− .04	68.5	+ 0.5	96	2	86	41	8	51	48	53	41	44	0.31	− 0.6	4	2,831	sw.	32	s.	5	16	14	1	3.3	
Sheridan	3,790	9	47	26.08	29.90	.....	68.0	.....	97	17	84	42	12	52	48	58	51	60	0.90	.....	7	4,753	nw.	52	nw.	20	18	9	4	3.5	
Yellowstone Park	6,200	11	48	23.95	29.94	+ .02	60.8	− 0.7	88	2	75	36	12	46	40	48	39	56	1.85	+ 0.7	12	5,695	sw.	38	sw.	27	14	8	9	4.4	
North Platte	2,821	11	51	27.08	29.94	+ .01	74.2	+ 0.3	96	28	86	50	23	62	32	66	63	74	5.21	+ 2.5	11	5,242	se.	35	sw.	31	21	7	3	3.1	
Middle Slope.							73.2	+ 1.6											64	3.46	+ 0.5									3.8	
Denver	5,291	129	136	24.78	29.91	.00	73.0	+ 1.2	95	18	86	56	28	60	33	59	52	56	4.17	+ 2.6	12	4,650	sw.	33	sw.	26	15	16	0	3.6	
Leadville	10,242	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pueblo	4,685	80	86	25.32	29.88	− .03	76.0	+ 2.8	102	11	90	56	22	62	41	60	53	55	1.21	− 0.8	7	4,857	se.	37	se.	8	17	12	2	3.1	
Concordia	1,398	42	50	28.49	29.92	− .03	77.9	− 0.2	99	5	88	58	23	68	29	70	68	75	7.86	+ 4.2	14	4,143	se	34	sw.	29	8	23	0	4.6	
Dodge City	2,509	44	54	27.34	29.87	− .06	79.5	+ 1.8	100	28	91	60	23	68	31	68	63	65	2.93	− 0.4	10	6,535	s.	42	nw.	13	14	15	2	4.1	
Wichita	1,358	98	121	28.54	29.93	− .03	79.6	+ 0.6	98	7	90	59	23	69	28	71	67	70	3.26	− 0.4	10	6,746	se.	56	nw.	11	13	16	2	4.1	
Oklahoma	1,214	10	47	28.67	29.91	− .05	83.3	+ 3.5	102	14	94	62	23	72	33	71	66	62	1.35	− 2.3	4	9,629	s.	38	s.	27	18	8	5	3.6	
Southern Slope.							81.7	+ 1.2											61	3.09	+ 0.3									4.2	
Abilene	1,738	45	54	28.14	29.88	− .05	84.8	+ 2.6	103	11	95	68	15	74	32	70	64	56	1.09	− 1.3	6	5,255	s.	27	s.	26	9	19	3	4.9	
Amarillo	3,676	10	49	26.27	29.89	− .03	77.9	+ 1.8	96	11	90	62	1	66	30	67	62	64	3.63	+ 0.5	8	8,270	s.	36	s.	25	15	16	0	4.0	
Del Rio	944	8	57	28.91	29.87	− .03	85.0	+ 0.3	105	21	96	70	20	74	33	.....	.....	.....	5.70	+ 3.5	5	6,460	se.	24	e.	23	18	9	4	3.5	
Roswell	3,578	9	57	26.35	29.88	.00	79.0	+ 0.1	105	11	92	62	21	66	37	66	61	63	1.94	− 1.5	7	3,777	s.	31	n.	15	10	18	3	4.5	
Southern Plateau.							73.6	− 0.4											45	1.13	− 0.2									2.8	
El Paso	3,762	110	133	26.14	29.79	− .05	81.8	+ 1.3	105	12	93	66	24	71	27	64	54	47	1.62	− 0.5	9	8,045	e.	67	nw.	13	12	17	2	4.0	
Santa Fe	7,013	8	56	23.36	29.86	− .02	69.8	+ 1.1	91	12	82	52	27	58	33	56	47	52	2.39	− 0.3	16	6,219	e.	33	se.	13	7	24	0	4.5	
Flagstaff	6,907	8	57	23.45	29.85	+ .02	64.6	− 0.4	91	12	80	40	28	50	45	52	45	58	1.74	0.0	12	5,332	sw.	36	sw.	3	14	10	7	3.9	
Phoenix	1,108	50	56	28.65	29.76	− .02	88.7	− 1.7	110	13	102	69	29	76	35	68	57	39	1.00	− 0.1	5	3,404	e.	28	se.	2	14	17	0	3.2	
Yuma	141	9	58	29.61	29.75	− .01	90.2	− 0.7	112	14	106	64	8	75	41	71	63	47	0.01	− 0.1	1	4,921	sw.	28	se.	22	29	2	0	0.8	
Brawley	†105	11	31	29.84	29.73	.....	89.4	.....	115	1	106	61	28	72	43	.....	.....	.....	0.34	.....	1	4,755	se.	28	sw.	26	21	9	1	2.2	
Independence	3,910	11	42	25.91	29.80	− .03	76.6	− 1.9	102	12	94	51	6	59	40	55	36	26	0.00	0.0	0	5,156	nw.	26	s.	31	28	3	0	1.0	
Middle Plateau.							71.7	+ 0.4											37	0.65	+ 0.1									2.4	
Reno	4,532	56	63	25.46	29.88	+ .01	67.4	− 0.1	95	2	85	36	6	50	45	49	34	37	T.	− 0.1	0	4,858	w.	27	w.	5	27	4	0	0.8	
Tonopah	6,090	12	20	24.08	29.79	.....	73.4	+ 6.9	94	13	87	40	6	60	36	51	30	23	0.20	− 0.1	2	6,542	se.	36	se.	26	26	5	0	1.9	
Winnemucca	4,344	18	56	25.59	29.90	.00	68.2	− 3.4	100	2	88	35	6	48	49	50	36	38	0.02	− 0.2	1	4,105	sw.	28	sw.	2	27	4	0	1.0	
Modena	5,479	10	43	24.63	29.85	− .01	70.8	+ 1.1	96	1	87	43	7	55	41	52	36	36	0.87	+ 0.6	4	9,654	sw.	48	sw.	5	15	14	2	3.2	
Salt Lake City	4,360	105	110	25.58	29.84	− .06	74.6	− 1.6	101	1	87	42	28	62	32	56	43	36	0.75	+ 0.2	7	6,328	nw.	50	e.	18	20	9	2	2.3	
Durango	6,546	18	56	23.74	29.87	− .02	68.9	+ 0.2	91	13	85	46	28	53	42	53	43	52	2.20	+ 0.6	12	4,146	nw.	28	e.	18	10	20	1	4.4	
Grand Junction	4,608	43	51	25.36	29.85	− .04	78.4	− 0.8	100	2	92	57	11	64	39	58	44	38	0.50	0.0	4	4,014	e.	28	s.	25	18	8	5	3.1	
Northern Plateau.							66.8	− 2.1											47	1.24	+ 4.9									3.2	
Baker City	3,471	48	58	26.43	29.96	+ .01	63.4	− 1.6	94	22	77	38	7	49	41	53	47	60	0.64	+ 0.2	6	4,325	nw.	21	nw.	29	19	8	4	3.0	
Boise	2,739	78	86	27.10	29.89	− .04	71.5	− 1.3	101	22	86	47	7	57	41	54	39	37	0.03	− 0.2	2	3,803	nw.	27	w.	9	20	9	2	2.5	
Lewiston	757	10	51	29.14	29.93	− .02	71.4	− 2.2	102	2	85	49	8	58	44	.....	.....	.....	2.59	+ 2.2	8	4,594	e.	39	w.	22	16	9	6	4.1	
Pocatello	4,477	46	54	25.47	29.88	− .04	69.8	− 1.4	98	2	85	43	28	54	42	54	42	43	0.81	+ 0.2	6	6,087	se.	38	sw.	4	20	10	1	2.7	
Spokane	1,929	101	110	27.93	29.94	− .02	65.9	− 2.9	95	22	78	46	19	53	36	53	43	53	2.37	+ 1.7	7	4,588	sw.	29	sw.	9	18	6	7	3.7	
Walla Walla	1,000	71	79	28.90	29.95	− .02	70.9	− 3.2	100	2	84	48	18	58	40	55	41	41	1.21	+ 0.8	5	4,976	s.	23	sw.	17	21	6	4	3.1	
N. Pac. Coast Reg.							59.1	− 2.1											76	1.38	+ 0.5									5.4	
Blaine	58	4	.....	.....	.....	.....	.....	.....	77	21	.....	39	19	.....	.....	.....	.....	.....	2.06	.....	.....	.....	se.	.....	.....	.....	.....	.....	.....	.....	.....	
North Head	211	11	56	29.87	30.09	+ .01	56.0	− 1.7	64	30	58	51	13	54	9	54	53	92	1.61	+ 1.1	12	10,719	nw.	56	se.	10	14	3	14	5.6	

TABLE I.—*Climatological data for U. S. Weather Bureau stations, July, 1909*—Continued.

Stations.	Elevation of instruments.			Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.								Mean wet thermometer.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.			Wind.					Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness during daylight, tenths.	Total snowfall.
	Barometer above sea level, feet.	Thermometers above ground.	Anemometer above ground.	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hrs.	Departure from normal.	Mean max. + mean min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.				Total.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				
N.P.Coast Reg.–Con.																													
Port Crescent	259	8	53	29.83	30.11	+ .05	53.9	− 2.4	71	2	60	39	2	48	32				1.55	+ 0.9	9	3,834	nw.	16	w.	22	10	8	13	5.4	
Seattle	123	185	224	29.95	30.08	+ .04	60.6	− 2.9	78	21	68	50	19	53	26	55	52	76	0.35	− 0.3	6	5,904	s.	25	nw.	25	9	7	15	6.1	
Tacoma	213	113	120	29.82	30.04	− .02	60.9	− 2.5	82	21	70	46	4	52	32	54	48	68	0.86	+ 0.2	5	4,543	n.	23	sw.	11	10	11	10	5.5	
Tatoosh Island	86	7	57	29.98	30.08	+ .03	54.4	− 0.7	62	28	58	47	17	51	12	52	51	89	1.83	0.0	13	6,296	s.	28	s.	24	7	8	16	6.6	
Portland, Oreg.	153	68	106	29.90	30.06	+ .01	63.9	− 2.4	88	21	73	47	13	55	34	57	52	69	2.26	+ 1.7	7	4,425	nw.	18	s.	4	12	11	8	4.6	
Roseburg	510	9	57	29.52	30.06	+ .03	63.8	− 2.3	88	21	77	43	18	50	41	54	48	64	0.48	+ 0.2	4	3,035	n.	16	sw.	25	11	16	4	3.9	
Mid. Pac. Coast Reg.							65.7	− 1.1										59	0.07	0.0									2.6	
Eureka	62	62	80	30.03	30.10	+ .05	55.6	+ 0.3	63	10	59	49	18	52	11	53	51	88	0.55	+ 0.4	6	6,974	nw.	38	nw.	12	1	23	7	6.0	
Mount Tamalpais	2,375	11	18	27.52	29.96	+ .01	67.6	.....	92	12	76	43	5	60	23	52	39	39	0.00	0.0	0	12,245	nw.	72	nw.	10	29	2	0	0.5	
Point Reyes Light	490	7	18	29.41	29.92	.....	51.9	.....	61	20	56	44	26	48	14	.....	.....	.....	0.00	0.0	0	25,647	nw.	77	nw.	25	12	9	10	4.6	
Red Bluff	332	50	56	29.52	29.86	− .03	79.6	− 2.5	106	13	94	57	6	65	39	58	41	30	T.	0.0	0	4,175	se.	23	w.	25	28	2	1	0.9	
Sacramento	69	106	117	29.81	29.88	.00	71.9	− 0.6	101	12	87	52	19	57	39	60	52	56	0.00	0.0	0	6,281	s.	30	sw.	4	31	0	0	0.4	
San Francisco	155	200	204	29.79	29.96	+ .01	57.8	+ 0.5	77	12	64	49	2	51	24	52	49	81	T.	0.0	0	8,713	w.	34	w.	30	23	5	3	2.5	
San José	141	12	110	29.81	29.96	.....	63.8	− 3.1	95	12	79	43	4	49	44	.....	.....	.....	0.00	0.0	0	4,681	nw.	24	se.	14	31	0	0	0.8	
Southeast Farallon	30	9	17	29.96	29.99	.....	52.5	.....	60	5	54	48	14	51	7	.....	.....	65	0.00	0.0	0	17,555	nw.	53	nw.	17	12	11	8	4.8	
S. Pac. Coast Reg.							69.6	− 1.3											T.	0.0									2.4	
Fresno	330	67	70	29.52	29.86	+ .03	79.3	− 2.7	107	13	97	54	6	62	41	58	42	33	0.00	0.0	0	5,287	nw.	22	nw.	4	31	0	0	0.4	
Los Angeles	338	159	191	29.55	29.91	+ .01	67.7	+ 0.3	89	1	77	53	29	59	26	60	57	77	0.00	0.0	0	4,133	sw.	16	sw.	28	20	11	0	2.9	
San Diego	87	94	102	29.83	29.92	.00	65.1	− 1.8	79	1	69	58	7	61	16	60	58	80	T.	0.0	0	4,294	sw.	19	nw.	30	18	10	3	3.7	
San Luis Obispo	201	47	54	29.75	29.96	+ .01	62.2	− 1.0	92	11	75	44	4	50	39	54	49	70	0.00	0.0	0	3,671	nw.	24	w.	5	24	6	1	2.7	
West Indies.																														
Grand Turk	11	6	20	30.05	30.06	+ .04	83.7	.....	91	11	89	71	16	78	.....	.....	.....	.....	0.79	.....	7	.....	e.	.....	.....	.....	.....	.....	.....	.....	
San Juan	82	48	90	29.95	30.04	+ .05	80.4	.....	89	10	86	70	15	75	15	75	73	77	4.02	− 0.8	18	9,243	e.	37	se.	16	13	16	2	4.3	
Panama.																														
Christobal	17	5	60	29.85	29.86	.....	78.3	.....	86	3	83	70	6	73	14	76	75	92	12.83	.....	25	4,805	se.	34	e.	20	1	19	11	7.0	
Culebra	172	4	30	29.45	29.87	.....	78.7	.....	90	10	86	67	21	71	20	74	73	94	7.95	.....	23	3,951	nw.	36	e.	11	0	12	19	8.0	
Ancon	92	6	69	29.76	29.85	.....	78.8	.....	91	10	86	68	10	72	23	75	74	92	9.01	.....	22	4,729	nw.	59	s.	10	1	10	20	8.0	
Alhajuela	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13.64	.....	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Bohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.07	.....	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Gatun	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.46	.....	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	

† Below sea level.

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, for storms in which the rate of fall equaled or exceeded 0.25 in any 5 minutes, or 0.80 inch in 1 hour, during July, 1909, at all stations furnished with self-registering gages.*

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Abilene, Tex	15	.....	.....	0.32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.29	.....	.....	.....
Albany, N. Y	16	.....	.....	0.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.25	.....	.....	.....
Alpena, Mich	10	3:12 p. m.	3:35 p. m.	0.63	3:17 p. m.	3:29 p. m.	0.03	0.28	0.58	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amarillo, Tex	6	8:35 p. m.	9:17 p. m.	0.65	8:42 p. m.	8:58 p. m.	0.01	0.16	0.42	0.60	0.63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Anniston, Ala	13	7:55 p. m.	9:50 p. m.	1.44	8:00 p. m.	8:26 p. m.	0.01	0.24	0.74	1.12	1.27	1.36	1.39	.....	.....	.....	.....	.....	.....	.....	.....
Asheville, N. C	3	4:30 p. m.	5:15 p. m.	0.74	4:36 p. m.	4:58 p. m.	0.01	0.26	0.57	0.64	0.68	0.73	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Ga	7	5:43 p. m.	8:25 p. m.	0.57	5:46 p. m.	6:00 p. m.	0.01	0.21	0.29	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlantic City, N. J	23	.....	.....	0.76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.28	.....	.....	.....
Augusta, Ga	7	.....	.....	0.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	.....	.....	.....
Baker City, Oreg	5	.....	.....	0.13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.13	.....	.....	.....
Baltimore, Md	15	2:35 p. m.	3:30 p. m.	0.91	3:09 p. m.	3:24 p. m.	0.27	0.10	0.42	0.62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bentonville, Ark	15	12:35 a. m.	3:20 a. m.	1.21	12:42 a. m.	1:07 a. m.	0.02	0.33	0.62	0.72	0.77	0.82	.....	.....	.....	.....	.....	.....	.....	.....	.....
Binghamton, N. Y	18	.....	.....	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	.....	.....	.....
Birmingham, Ala	13–14	7:37 p. m.	D. N.	1.87	8:02 p. m.	8:54 p. m.	0.01	0.26	0.54	0.90	0.91	0.93	0.94	0.98	1.12	1.23	1.33	1.37	.....	.....	.....
Do	23	4:10 a. m.	6:40 a. m.	1.29	4:29 a. m.	5:22 a. m.	0.12	0.22	0.38	0.52	0.66	0.75	0.80	0.83	0.84	0.93	1.01	1.08	.....	.....	.....
Bismarck, N. Dak	27	10:15 p. m.	D. N.	0.58	10:21 p. m.	10:37 p. m.	0.01	0.27	0.45	0.53	0.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Block Island, R.I	6	.....	.....	0.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.13	.....	.....	.....
Boise, Idaho	26	.....	.....	0.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	•	.....	.....	.....
Boston, Mass	18	.....	.....	0.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	.....	.....	.....
Buffalo, N. Y	22	.....	.....	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	.....	.....
Burlington, Vt	18	.....	.....	1.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.60	.....	.....	.....
Cairo, Ill	26	.....	.....	1.93	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.51	.....	.....	.....
Canton, N. Y	18	.....	.....	0.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.38	.....	.....	.....
Charles City, Iowa	9	.....	.....	0.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.26	.....	.....	.....
Charleston, S. C	7	1:25 p. m.	4:10 p. m.	1.12	1:48 p. m.	2:13 p. m.	0.02	0.15	0.26	0.62	0.98	1.08	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	17	5:20 p. m.	7:05 p. m.	1.20	5:22 p. m.	6:12 p. m.	0.01	0.10	0.20	0.26	0.29	0.32	0.40	0.59	0.79	0.88	0.94	.....	.....	.....	.....
Charlotte, N. C	27	D. N.	8:15 a. m.	0.88	5:59 a. m.	6:12 a. m.	0.29	0.12	0.29	0.37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chattanooga, Tenn	23	12:10 a. m.	4:28 a. m.	0.68	12:38 a. m.	1:00 a. m.	0.07	0.11	0.27	0.33	0.44	0.49	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cheyenne, Wyo	26	.....	.....	0.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.38	.....	.....	.....
Chicago, Ill	2	7:32 p. m.	8:58 p. m.	0.87	7:54 p. m.	8:12 p. m.	0.02	0.16	0.35	0.59	0.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ohio	12	3:00 p. m.	7:10 p. m.	0.55	3:44 p. m.	3:54 p. m.	0.03	0.28	0.36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland, Ohio	12	4:21 p. m.	8:02 p. m.	0.87	4:31 p. m.	4:41 p. m.	0.05	0.31	0.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbia, Mo	6	9:06 p. m.	10:18 p. m.	0.59	9:17 p. m.	9:37 p. m.	0.01	0.23	0.43	0.47	0.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbia, S. C	6	4:35 p. m.	5:42 p. m.	0.61	5:12 p. m.	5:26 p. m.	0.05	0.12	0.36	0.54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus, Ohio	12	4:46 p. m.	7:37 p. m.	0.73	4:48 p. m.	5:08 p. m.	0.01	0.15	0.38	0.54	0.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Concord, N. H	3	.....	.....	1.04	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	.....	.....	.....
Concordia, Kans	29–30	9:12 p. m.	5:53 a. m.	2.14	9:36 p. m.	10:19 p. m.	0.01	0.23	0.55	0.89	1.18	1.49	1.73	1.80	1.85	.....	.....	.....	.....	.....	.....
Do	30–31	11:17 p. m.	2:52 p. m.	1.35	11:59 p. m.	12:43 a. m.	0.10	0.16	0.43	0.59	0.77	0.88	0.94	1.01	1.11	1.16	.....	.....	.....	.....	.....
Corpus Christi, Tex	22	.....	.....	0.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.13	.....	.....	.....
Davenport, Iowa	10	4:10 p. m.	6:10 p. m.	1.27	5:03 p. m.	5:42 p. m.	0.40	0.13	0.34	0.47	0.48	0.53	0.63	0.76	0.85	.....	.....	.....	.....	.....	.....
Del Rio, Tex	22–23	6:15 p. m.	7:50 a. m.	3.35	11:28 p. m.	11:50 p. m.	1.51	0.20	0.52	0.64	0.92	0.98	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denver, Colo	3	2:45 p. m.	6:05 p. m.	1.12	3:24 p. m.	4:01 p. m.	0.06	0.07	0.11	0.15	0.37	0.66	0.80	0.91	0.96	.....	.....	.....	.....	.....	.....
Do	4	5:30 p. m.	8:20 p. m.	1.44	5:40 p. m.	6:09 p. m.	0.01	0.15	0.67	1.04	1.19	1.30	1.35	.....	.....	.....	.....	.....	.....	.....	.....
Do	8	10:10 p. m.	11:40 p. m.	0.93	10:22 p. m.	10:38 p. m.	0.01	0.41	0.51	0.62	0.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Des Moines, Iowa	5–6	10:30 p. m.	12:50 p. m.	1.67	1:34 a. m.	2:09 a. m.	0.25	0.09	0.19	0.29	0.42	0.55	0.69	0.77	.....	.....	.....	.....	.....	.....	.....
Do	30–31	10:25 p. m.	D. N.	0.67	10:43 p. m.	11:04 p. m.	0.06	0.13	0.32	0.41	0.47	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detroit, Mich	28	9:50 p. m.	11:45 p. m.	1.03	10:52 p. m.	11:09 p. m.	0.13	0.14	0.44	0.79	0.84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	29	D. N.	5:55 a. m.	3.53	2:14 a. m.	3:27 a. m.	0.10	0.23	0.24	0.36	0.56	0.70	1.03	1.31	1.45	1.57	1.73	2.11	2.63	.....	.....
Devils Lake, N. Dak	7–8	9:35 p. m.	D. N.	0.57	11:26 p. m.	11:36 p. m.	0.07	0.21	0.38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dodge City, Kans	6	6:58 p. m.	7:35 p. m.	0.63	6:59 p. m.	7:29 p. m.	T.	0.33	0.33	0.40	0.49	0.58	0.62	.....	.....	.....	.....	.....	.....	.....	.....
Dubuque, Iowa	2	8:08 p. m.	8:47 p. m.	0.37	8:13 p. m.	8:23 p. m.	0.01	0.30	0.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, etc.*—Continued.

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Duluth, Minn	20–21	9:32 p. m.	7:22 a. m.	2.68	2:45 a. m.	4:14 a. m.	0.54	0.32	0.45	0.50	0.50	0.65	0.71	0.75	0.78	0.80	0.88	1.09	1.46	1.74	.....
Do	21–22	9:23 p. m.	8:30 a. m.	3.97	9:27 p. m.	10:35 p. m.	0.01	0.05	0.14	0.31	0.53	0.87	1.28	1.59	1.74	1.85	1.94	2.26	2.51	.....	.....
Do	31	8:46 p. m.	11:58 p. m.	1.00	9:49 p. m.	10:11 p. m.	0.03	0.12	0.29	0.40	0.46	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....
Durango, Colo	26			0.57														0.21	.....	.....	.....
Eastport, Me	16	8:40 p. m.	11:10 p. m.	0.81	8:42 p. m.	9:11 p. m.	0.01	0.05	0.17	0.20	0.26	0.50	0.67	.....	.....	.....	.....	.....	.....	.....	.....
Elkins, W. Va	30	4:20 a. m.	7:15 a. m.	1.01	6:12 a. m.	6:27 a. m.	0.51	0.14	0.29	0.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
El Paso, Tex	5	5:35 p. m.	9:30 p. m.	0.95	7:20 p. m.	7:46 p. m.	0.37	0.07	0.18	0.33	0.40	0.50	0.53	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pa	30	1:05 a. m.	D. N.	0.37	1:31 a. m.	1:43 a. m.	0.02	0.13	0.31	0.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Escanaba, Mich	14	4:15 p. m.	5:55 p. m.	1.29	4:28 p. m.	5:34 p. m.	0.01	0.17	0.41	0.54	0.71	0.75	0.78	0.81	0.83	0.91	0.92	1.09	1.27	.....	.....
Do	22	4:25 p. m.	D. N.	1.47	4:31 p. m.	5:37 p. m.	0.01	0.05	0.13	0.19	0.28	0.35	0.39	0.48	0.59	0.72	0.81	0.94	1.08	.....	.....
Eureka, Cal	4			0.41														0.20	.....	.....	.....
Evansville, Ind	13			1.54†														1.41†	.....	.....	.....
Flagstaff, Ariz	19	D. N.	6:10 a. m.	0.50	3:00 a. m.	3:16 a. m.	0.03	0.10	0.33	0.41	0.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Smith, Ark	14–15	5:40 p. m.	7:14 p. m.	2.37	1:34 a. m.	2:18 a. m.	0.40	0.18	0.42	0.63	0.83	1.04	1.15	1.22	1.27	1.36	.....	.....	.....	.....	.....
Fort Worth, Tex	22			0.02														0.02	.....	.....	.....
Fresno, Cal	‡																		.....	.....	.....
Galveston, Tex	21			0.59														0.27	.....	.....	.....
Grand Haven, Mich	2			0.54														0.54	.....	.....	.....
Grand Junction, Colo	26			0.23														0.18	.....	.....	.....
Grand Rapids, Mich	22	5:40 a. m.	8:10 a. m.	0.46	5:45 a. m.	6:03 a. m.	0.01	0.17	0.24	0.37	0.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Green Bay, Wis	2	1:50 p. m.	2:40 p. m.	0.47	1:54 p. m.	2:05 p. m.	0.02	0.20	0.41	0.42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenville, Me	16			1.17														•	.....	.....	.....
Hannibal, Mo	6–7	8:31 p. m.	3:55 a. m.	1.89	8:35 p. m.	8:43 p. m.	0.01	0.41	0.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harrisburg, Pa	23			0.41														0.21	.....	.....	.....
Hartford, Conn	30	2:02 p. m.	2:35 p. m.	0.36	2:11 p. m.	2:17 p. m.	0.02	0.29	0.33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hatteras, N. C	28	1:15 a. m.	5:15 a. m.	0.78	1:21 a. m.	1:34 a. m.	0.02	0.25	0.48	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Havre, Mont	9	8:31 p. m.	9:20 p. m.	0.81	8:56 p. m.	9:12 p. m.	0.02	0.10	0.40	0.77	0.79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Helena, Mont	26			0.45														0.29	.....	.....	.....
Houghton, Mich	22	5:30 a. m.	1:50 p. m.	1.30	8:17 a. m.	8:50 a. m.	0.20	0.07	0.12	0.22	0.45	0.65	0.73	0.78	.....	.....	.....	.....	.....	.....	.....
Do	29	12:25 a. m.	D. N.	0.95	12:28 a. m.	1:23 a. m.	0.00	0.07	0.15	0.23	0.29	0.35	0.40	0.56	0.61	0.66	0.71	0.81	.....	.....	.....
Huron, S. Dak	30	1:30 p. m.	3:55 p. m.	0.83	1:33 p. m.	1:58 p. m.	0.01	0.19	0.33	0.47	0.63	0.79	.....	.....	.....	.....	.....	.....	.....	.....	.....
Independence, Cal	‡																		.....	.....	.....
Indianapolis, Ind	11	1:55 p. m.	2:32 p. m.	0.51	2:12 p. m.	2:24 p. m.	0.01	0.24	0.41	0.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	12	12:55 p. m.	2:55 p. m.	1.51	1:12 p. m.	2:21 p. m.	0.01	0.24	0.49	0.67	0.73	0.79	0.83	0.83	0.88	1.11	1.21	1.37	1.50	.....	.....
Iola, Kans	9–10	10:40 p. m.	6:00 a. m.	1.73	1:45 a. m.	2:05 a. m.	0.14	0.26	0.58	0.83	0.93	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jacksonville, Fla	7–8	9:45 p. m.	D. N.	1.93	12:13 a. m.	12:57 a. m.	0.80	0.10	0.25	0.34	0.37	0.48	0.60	0.69	0.89	1.01	.....	.....	.....	.....	.....
Do	8	5:05 p. m.	6:39 p. m.	0.86	6:02 p. m.	6:24 p. m.	0.08	0.12	0.33	0.53	0.72	0.77	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jupiter, Fla	29	6:00 a. m.	8:30 a. m.	0.96	7:11 a. m.	7:54 a. m.	0.15	0.13	0.31	0.35	0.37	0.41	0.58	0.65	0.74	0.79	.....	.....	.....	.....	.....
Kalispell, Mont	26			1.06														0.30	.....	.....	.....
Kansas City, Mo	29–30	11:05 p. m.	5:45 a. m.	1.79	2:36 a. m.	3:40 a. m.	0.46	0.12	0.27	0.32	0.36	0.49	0.60	0.69	0.72	0.72	0.78	1.02	1.17	.....	.....
Keokuk, Iowa	5–6	3:45 a. m.	8:30 a. m.	3.08	12:42 a. m.	1:45 a. m.	1.57	0.08	0.14	0.23	0.39	0.43	0.48	0.53	0.54	0.59	0.79	1.19	1.25	.....	.....
Key West, Fla	22			0.27														0.26	.....	.....	.....
Knoxville, Tenn	13	3:05 p. m.	8:30 p. m.	2.30	3:13 p. m.	4:03 p. m.	0.02	0.06	0.17	0.50	0.86	1.23	1.38	1.47	1.63	1.73	1.88	.....	.....	.....	.....
La Crosse, Wis	9			0.45														0.45	.....	.....	.....
Lander, Wyo	26			0.11														0.05	.....	.....	.....
La Salle, Ill	29	12:28 p. m.	1:17 p. m.	0.53	12:36 p. m.	1:01 p. m.	T.	0.17	0.19	0.20	0.40	0.51	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lewiston, Idaho	27			1.77														0.21	.....	.....	.....
Lexington, Ky	6	3:00 a. m.	11:30 a. m.	2.03	6:05 a. m.	6:25 a. m.	0.37	0.13	0.26	0.55	0.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lincoln, Neb	4–5	4:30 p. m.	7:50 a. m.	2.89	7:57 p. m.	9:15 p. m.	0.63	0.05	0.18	0.35	0.42	0.45	0.57	0.61	0.63	0.66	0.76	0.97	1.23	.....	.....
Little Rock, Ark	31			0.38														0.38	.....	.....	.....
Los Angeles, Cal	‡																		.....	.....	.....
Louisville, Ky	6	D. N.	10:30 a. m.	1.33	8:32 a. m.	8:57 a. m.	0.47	0.12	0.27	0.53	0.64	0.71	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	7	D. N.	11:40 a. m.	2.34	2:55 a. m.	3:55 a. m.	0.06	0.08	0.11	0.25	0.28	0.28	0.29	0.34	0.40	0.60	0.87	0.97	.....	.....	.....
Do	30	6:40 p. m.	8:15 p. m.	1.25	6:51 p. m.	7:37 p. m.	0.01	0.19	0.46	0.69	0.73	0.74	0.82	0.87	0.94	1.09	1.11	.....	.....	.....	.....
Lynchburg, Va	27			0.61														0.38	.....	.....	.....
Macon, Ga	7	7:32 p. m.	D. N.	0.85	7:35 p. m.	7:48 p. m.	0.01	0.42	0.69	0.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madison, Wis	2			0.13														0.13	.....	.....	.....
Marquette, Mich	11–12	2:58 p. m.	6:15 a. m.	1.16	6:26 p. m.	6:41 p. m.	0.10	0.06	0.36	0.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn	15	D. N.	6:30 a. m.	0.48	3:18 a. m.	3:34 a. m.	0.02	0.09	0.24	0.41	0.44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Meridian, Miss	1			1.02														0.34	.....	.....	.....
Milwaukee, Wis	2	5:24 p. m.	6:35 p. m.	1.50	5:29 p. m.	6:08 p. m.	0.01	0.24	0.52	0.90	1.12	1.26	1.35	1.43	1.47	.....	.....	.....	.....	.....	.....
Minneapolis, Minn	11	6:40 a. m.	11:00 a. m.	3.01	7:14 a. m.	8:04 a. m.	0.06	0.07	0.13	0.23	0.41	0.52	0.60	0.72	0.78	0.81	0.89	.....	.....	.....	.....
					8:04 a. m.	8:54 a. m.	.....	0.91	0.93	0.93	0.93	0.94	1.02	1.04	1.04	1.04	1.08	.....	.....	.....	.....
					8:54 a. m.	9:44 a. m.	.....	1.23	1.43	1.51	1.54	1.55	1.56	1.68	1.73	1.82	2.00	.....	.....	.....	.....
					9:44 a. m.	10.09 a. m.	.....	2.11	2.22	2.27	2.52	2.63	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mobile, Ala	3	D. N.	5:20 a. m.	1.69	3:18 a. m.	4:32 a. m.	0.05	0.24	0.41	0.45	0.46	0.46	0.50	0.61	0.64	0.65	0.67	0.90	1.30	.....	.....
Do	18	6:45 p. m.	9:20 p. m.	1.18	6:30 p. m.	7:35 p. m.	0.00	0.14	0.29	0.46	0.61	0.77	0.89	0.97	1.02	.....	.....	.....	.....	.....	.....
Modena, Utah	2			0.47														0.41	.....	.....	.....
Montgomery, Ala	16	2:20 p. m.	4:00 p. m.	1.58	2:43 p. m.	3:27 p. m.	0.01	0.36	0.71	0.95	1.13	1.28	1.33	1.43	1.47	1.51	.....	.....	.....	.....	.....
Do	30	12:09 p. m.	2:20 p. m.	0.78	12:16 p. m.	12:31 p. m.	0.03	0.23	0.42	0.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorhead, Minn	20–21	9:15 p. m.	7:10 a. m.	1.11	9:17 p. m.	9:42 p. m.	0.01	0.13	0.26	0.35	0.61	0.81	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mount Tamalpais, Cal	‡																		.....	.....	.....
Mount Weather, Va	30	11:45 a. m.	12:20 p. m.	0.62	11:51 a. m.	12:14 p. m.	0.02	0.08	0.19	0.39	0.55	0.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nantucket, Mass	23			0.51														0.28	.....	.....	.....
Nashville, Tenn	7	12:27 p. m.	4:30 p. m.	3.03	12:32 p. m.	1:04 p. m.	0.01	0.40	0.81	1.06	1.08	1.26	1.34	1.37	.....	.....	.....	.....	.....	.....	.....
					1:51 p. m.	2:21 p. m.	1.41	0.12	0.57	0.96	1.16	1.29	1.36	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn	18			0.40														0.29	.....	.....	.....
New Orleans, La	2	4:45 a. m.	6:15 a. m.	0.59	5:04 a. m.	5:15 a. m.	0.05	0.14	0.46	0.52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York, N. Y	16			0.38														0.33	.....	.....	.....
Norfolk, Va	14	4:20 p. m.	6:30 p. m.	1:42	5:27 p. m.	6:11 p. m.	0.44	0.06	0.14	0.33	0.36	0.57	0.64	0.73	0.79	0.94	.....	.....	.....	.....	.....
Northfield, Vt	30	10:15 a. m.	10:35 a. m.	0.45	10. 18 a. m.	10. 26 a. m.	T.	0.35	0.44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Head, Wash	6			0.72														0.12	.....	.....	.....
North Platte, Neb	9	12:40 p. m.	4:15 p. m.	1.42	1:03 p. m.	1:28 p. m.	0.09	0.11	0.19	0.32	0.52	0.68	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	29–30	9:05 p. m.	3:30 a. m.	1.28	10:40 p. m.	11:24 p. m.	0.22	0.06	0.14	0.21	0.33	0.40	0.51	0.59	0.79	0.93	.....	.....	.....	.....	.....
Oklahoma, Okla	15			0.92														0.45	.....	.....	.....
Omaha, Neb	5–6	7:48 p. m.	5:45 a. m.	1.66	9:29 p. m.	1:20 p. m.	0.22	0.11	0.33	0.53	0.58	0.66	0.77	0.90	0.99	1.02	1.14	1.17	.....	.....	.....
Oswego, N.Y	23			2.25														0.57	.....	.....	.....
Palestine, Tex	17			0.52														0.51	.....	.....	.....
Parkersburg, W. Va	12	12:25 a. m.	7:07 a. m.	1.17	6:35 a. m.	6:52 a. m.	0.37	0.15	0.45	0.74	0.79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	29	4:12 p. m.	9:10 p. m.	1.03	5:09 p. m.	5:09 p. m.	0.05	0.28	0.63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pensacola, Fla	2	2:40 p. m.	8:15 p. m.	1.50	2:47 p. m.	3:08 p. m.	0.01	0.23	0.62	1.00	1.06	1.10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	3	2:30 a. m.	3:50 a. m.	1.22	2:54 a. m.	3:19 a. m.	0.02	0.18	0.52	0.72	0.91	1.19	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peoria, Ill	6			2.37														0.52	.....	.....	.....
Philadelphia, Pa	16	1:57 p. m.	2:35 p. m.	0.63	2:00 p. m.	2:16 p. m.	0.01	0.37	0.52	0.59	0.61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Phoenix, Ariz	17–18			0.90														0.66	.....	.....	.....
Pierre, S. Dak	4			0.23														0.19	.....	.....	.....
Pittsburg, Pa	12			0.42														0.29	.....	.....	.....
Pocatello, Idaho	26			0.27														0.18	.....	.....	.....
Point Reyes Light, Cal	‡																		.....	.....	.....
Port Huron, Mich	28			0.46														0.43	.....	.....	.....
Portland, Me	17			0.32														0.32	.....	.....	.....
Portland, Oreg	25	9:08 p. m.	10:15 p. m.	0.57	9:10 p. m.	9:38 p. m.	0.01	0.15	0.20	0.20	0.21	0.46	0.52	.....	.....	.....	.....	.....	.....	.....	.....
Providence, R. I	18			0.31														0.18	.....	.....	.....

TABLE II.—*Accumulated amounts of precipitation for each 5 minutes, etc.*—Continued.

Stations.	Date.	Total duration. From—	Total duration. To—	Total amount of precipitation.	Excessive rate. Began—	Excessive rate. Ended—	Amount before excessive began.	Depths of precipitation (in inches) during periods of time indicated. 5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min.	50 min.	60 min.	80 min.	100 min.	120 min.
Pueblo, Colo	5			0.41														0.33			
Raleigh, N. C	6	9:05 p. m.	11:20 p. m.	1.51	9:25 p. m.	10:25 p. m.	0.08	0.09	0.16	0.23	0.42	0.57	0.74	0.89	1.11	1.17	1.25	1.40			
Do	27	6:50 a. m.	9:40 a. m.	1.51	8:38 a. m.	9:24 a. m.	0.06	0.14	0.42	0.55	0.62	0.67	0.89	1.09	1.25	1.42	1.44				
Rapid City, S. Dak	17			0.52														0.45			
Red Bluff, Cal	5			T.														T.			
Reno, Nev	31			T.														T.			
Richmond, Va	6			0.78														0.26			
Rochester, N. Y	23			0.66														0.34			
Roseburg, Oreg	5			6.33														0.10			
Roswell, N. Mex	24			1.00														0.33			
Sacramento, Cal	‡																				
St. Louis, Mo	10–11	6:15 p. m.	4:15 a. m.	2.20	8:32 p. m.	9:52 p. m.	0.14	0.08	0.15	0.22	0.36	0.49	0.61	0.65	0.69	0.83	0.94	1.28	1.66		
St. Paul, Minn	11	6:12 p. m.	8:40 p. m.	1.04	7:12 p. m.	7:29 p. m.	0.13	0.15	0.27	0.34	0.40										
Salt Lake City, Utah	19			0.30														0.30			
San Antonio, Tex	22	12:45 a. m.	11:05 a. m.	2.82	3:00 a. m.	3:55 a. m.	0.62	0.05	0.10	0.15	0.22	0.33	0.52	0.75	0.83	0.90	0.94	1.04			
San Diego, Cal	2			T.														T.			
Sand Key, Fla	13	3:07 p. m.	7:10 p. m.	1.75	3:18 p. m.	3:42 p. m.	0.01	0.13	0.53	0.96	1.27	1.43									
Sandusky, Ohio	15	3:43 p. m.	6:38 p. m.	1.75	4:30 p. m.	5:05 p. m.	0.25	0.07	0.20	0.39	0.78	0.97	1.13	1.34							
Do	29	1:00 a. m.	6:30 a. m.	3.35	3:11 a. m.	3:41 a. m.	0.08	0.09	0.11	0.23	0.44	0.94	1.05								
Do	29	1:00 a. m.	6:30 a. m.	3.35	4:21 a. m.	5:30 a. m.	1.30	0.08	0.18	0.20	0.34	0.61	0.83	1.03	1.10	1.26	1.44	1.58	1.80		
San Francisco, Cal	8, 31			T.														T.			
San Jose, Cal	‡																				
San Luis Obispo, Cal	‡																				
Santa Fe, N. Mex	20	4:58 p. m.	6:05 p. m.	0.44	5:11 p. m.	5:23 p. m.	0.04	0.18	0.33	0.36											
Sault Sainte Marie, Mich	11–12	7:01 p. m.	D. N.	0.88	11:20 p. m.	11:30 p. m.	0.35	0.14	0.32												
Savannah, Ga	8	D. N.	2:42 p. m.	3.85	6:18 a. m.	8.04 a. m.	0.33	0.10	0.34	0.56	0.80	1.05	1.39	1.77	1.95	2.13	2.26	2.39	2.55	2.88	3.04
Do	28	7:41 p. m.	11:15 p. m.	1.00	7:48 p. m.	8:13 p. m.	0.02	0.13	0.29	0.49	0.60	0.68									
Scranton, Pa	15	2:24 p. m.	3:17 p. m.	1.01	2:38 p. m.	3:13 p. m.	0.07	0.13	0.23	0.32	0.39	0.62	0.76	0.93				0.08			
Seattle, Wash	6			0.24														0.08			
Sheridan, Wyo	10	3:44 p. m.	4:04 p. m.	0.38	3:46 p. m.	3:58 p. m.	0.01	0.19	0.31	0.36											
Shreveport, La	21			0.67														0.44			
Sioux City, Iowa	11	12:45 a. m.	2:50 a. m.	0.86	1:08 a. m.	1:36 a. m.	0.08	0.12	0.22	0.37	0.50	0.60	0.64								
Southeast Farallon, Cal	‡																				
Spokane, Wash	5			1.03														0.50			
Springfield, Ill	6	10:55 p. m.	D. N.	0.87	11:02 p. m.	11:26 p. m.	0.03	0.13	0.24	0.35	0.60	0.81									
Do	11	D. N.	11:24 a. m.	1.00	10:20 a. m.	10:45 a. m.	0.01	0.15	0.45	0.73	0.86	0.95									
Springfield, Mo	7–8	6:23 p. m.	D. N.	5.90	7:13 p. m.	7:33 p. m.	0.14	0.16	0.28	0.49	0.71										
					8:20 p. m.	10:00 p. m.	0.94	0.26	0.34	0.38	0.44	0.51	0.60	0.71	1.11	1.22	1.32	1.75	2.16	2.66	
					10:30 p. m.	11:20 p. m.	3.68	0.12	0.28	0.46	0.74	1.01	1.06	1.08	1.20	1.43	1.58				
Do	10	D. N.	10.05 a. m.	1.37	6:04 a. m.	6:35 a. m.	0.04	0.19	0.32	0.42	0.60	0.74	0.87	0.92							
Syracuse, N. Y	23			0.67														0.40			
Tacoma, Wash	6			0.47														0.21			
Tampa, Fla	17	5:30 p. m.	6:10 p. m.	0.78	5:30 p. m.	5:47 p. m.	0.00	0.13	0.36	0.68	0.77										
Tatoosh Island, Wash	10			1.22														0.23			
Taylor, Tex	22			1.09														0.30			
Thomasville, Ga	8	4:47 p. m.	5:15 p. m.	0.67	4:48 p. m.	5:06 p. m.	0.01	0.10	0.35	0.57	0.66										
Do	21	11:17 a. m.	12:30 p. m.	0.78	11:27 a. m.	11:57 a. m.	0.02	0.08	0.18	0.25	0.31	0.55	0.71								
Do	29	1:52 p. m.	3:05 p. m.	1.69	2:02 p. m.	2:40 p. m.	0.01	0.39	0.72	1.10	1.23	1.35	1.51	1.58	1.63						
Toledo, Ohio	13	12:20 p. m.	1:20 p. m.	1.52	12:26 p. m.	1:01 p. m.	0.03	0.08	0.15	0.64	1.05	1.22	1.37	1.43							
Tonopah, Nev	3			0.17														0.16			
Topeka, Kans	6	4:10 p. m.	6:30 p. m.	1.47	4:35 p. m.	5:12 p. m.	0.02	0.17	0.42	0.71	0.96	1.17	1.25	1.31	1.36						
Do	6–7	8:30 p. m.	11:55 a. m.	3.64	9:17 p. m.	9:45 p. m.	0.45	0.21	0.65	0.96	1.19	1.40	1.45								
Do	11	4:55 a. m.	6:20 a. m.	1.16	5:29 a. m.	5:46 a. m.	0.07	0.41	0.85	1.03	1.06										
Do	31	12:18 a. m.	3:50 a. m.	1.50	1:25 a. m.	1:53 a. m.	0.27	0.26	0.50	0.75	0.94	1.08	1.14								
Valentine, Nebr	27	4:25 p. m.	5:34 p. m.	0.80	4:41 p. m.	5:02 p. m.	0.02	0.25	0.55	0.69	0.75	0.77									
Vicksburg, Miss	9	5:57 p. m.	7:10 p. m.	1.13	5:57 p. m.	6:21 p. m.	0.00	0.19	0.47	0.72	1.00	1.09									
Walla Walla, Wash	10			0.28														0.15			
Washington, D.C	16	6:25 p. m.	7:15 p. m.	0.42	6:38 p. m.	6:47 p. m.	0.01	0.24	0.41												
Wichita, Kans	27			0.84														0.46			
Williston, N. Dak	21			0.70														0.62			
Wilmington, N. C	17			0.33														0.33			
Winnemucca, Nev	26			0.02														0.02			
Wytheville, Va	1			0.51														0.30			
Yankton, S. Dak	9	6:40 a. m.	8:10 a. m.	0.70	6:59 a. m.	7:13 a. m.	0.03	0.26	0.50	0.59											
Do	9	6:10 p. m.	9:35 p. m.	1.10	6:17 p. m.	6:52 p. m.	0.01	0.12	0.13	0.15	0.37	0.56	0.69	0.82							
Do	10–11	10:55 p. m.	1:15 a. m.	1.22	11:01 p. m.	11:21 p. m.	0.01	0.14	0.50	0.79	0.93										
Yellowstone Park, Wyo	20			0.42														0.37			

* Self register not working. † Estimated. ‡ No precipitation recorded during month.

TABLE III.—*Data furnished by the Canadian Meteorological Service, July, 1909.*

Stations.	Pressure.			Temperature.				Precipitation.			Stations.	Pressure.			Temperature.				Precipitation.		
	Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Mean minimum.	Total.	Departure from normal.	Total snowfall.		Actual, reduced to mean of 24 hours.	Sea level, reduced to mean of 24 hours.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Mean minimum.	Total.	Departure from normal.	Total snowfall.
	Ins.	*Ins.*	*Ins.*	°	°	°	°	*Ins.*	*Ins.*	*Ins.*		*Ins.*	*Ins.*	*Ins.*	°	°	°	°	*Ins.*	*Ins.*	*Ins.*
St. Johns, N. F.	29.79	29.92	−.05	61.6	+ 2.3	70.2	52.9	2.49	−1.40	.....	Parry Sound, Ont.	29.24	29.92	−.04	66.3	+ 0.3	77.8	54.8	3.91	+1.29	....
Sydney, C. B. I.	29.86	29.90	−.03	63.1	+ 0.8	72.5	53.8	4.14	+0.49	.....	Port Arthur, Ont.	29.22	29.93	−.01	64.0	+ 2.0	75.0	52.9	5.17	+1.69	....
Halifax, N. S.	29.80	29.90	−.06	64.0	+ 0.6	74.1	53.8	3.04	−1.01	.....	Winnipeg, Man.	29.08	29.89	−.04	68.0	+ 2.0	80.0	56.0	3.84	+0.76	....
Grand Manan, N. B.	29.80	29.85	−.08	61.8	+ 0.1	70.3	53.4	2.85	−0.15	.....	Minnedosa, Man.	28.12	29.90	−.03	65.5	+ 3.3	76.9	54.0	3.11	+0.51	....
Yarmouth, N. S.	29.84	29.91	−.04	59.7	+ 0.2	67.8	51.6	3.44	−0.18	.....	Qu' Appelle, Assin.	27.64	29.84	−.08	63.4	− 0.1	72.6	54.1	7.25	+4.77	....
Charlottetown, P. E. I.	29.81	29.85	−.05	66.2	+ 2.1	74.2	58.2	3.31	−0.18	.....	Medicine Hat, Alberta.	27.64	29.87	−.03	68.6	+ 0.8	80.2	56.9	1.69	−0.40	....
Chatham, N. B.	29.79	29.81	−.07	65.2	+ 0.2	74.7	55.7	4.40	+0.21	.....	Swift Current, Sask.	27.38	29.90	−.01	64.7	− 1.8	74.2	55.3	4.66	+2.22	....
Father Point, Que.	29.76	29.78	−.07	59.1	+ 1.5	67.3	50.9	3.56	+0.52	.....	Calgary, Alberta	26.40	29.86	−.04	61.4	+ 0.8	73.2	49.5	4.09	+1.41	....
Quebec, Que.	29.51	29.82	−.09	65.1	− 0.4	74.4	55.7	3.44	−0.82	.....	Banff, Alberta	25.40	29.91	+.01	57.1	+ 0.5	71.2	43.1	2.68	−0.56	....
Montreal, Que.	29.65	29.85	−.08	67.5	− 1.0	74.8	60.2	3.65	−0.64	.....	Edmonton, Alberta.	27.63	29.88	−.02	62.0	+ 1.4	74.5	49.5	3.25	+0.22	....
Rockliffe, Ont.	29.27	29.87	−.09	62.9	− 2.7	73.5	52.3	6.81	+3.69	.....	Prince Albert, Sask.	28.34	29.87	−.04	64.6	+ 2.7	74.6	54.6	3.90	+1.85	....
Ottawa, Ont.	29.61	29.93	−.01	66.2	− 3.3	74.9	57.5	5.06	+1.59	.....	Battleford, Sask.	28.16	29.87	−.03	65.0	+ 0.3	75.8	54.2	3.57	+1.23	....
Kingston, Ont.	29.60	29.91	−.06	65.3	− 2.9	72.4	58.2	3.60	+0.71	.....	Kamloops, B. C.	28.61	29.85	−.09	69.2	+ 0.7	84.9	53.5	2.24	+0.63	....
Toronto, Ont.	29.55	29.91	−.06	67.7	− 0.3	77.9	57.5	3.47	+0.55	.....	Victoria, B. C.	29.94	30.03	−.02	59.6	− 0.4	67.6	51.6	0.92	+0.52	....
White River, Ont.	28.60	29.89	−.05	60.5	+ 1.0	73.5	47.4	3.03	+0.23	.....	Barkerville, B. C.	25.67	29.94	.00	52.8	− 2.3	63.0	42.6	2.81	−0.21	....
Port Stanley, Ont.	29.33	29.96	−.02	66.8	− 1.0	76.3	57.2	1.79	+1.25	.....	Hamilton, Bermuda	29.99	30.15	.00	77.5	− 1.2	82.0	73.0	7.46	+3.02	....
Southampton, Ont.	29.26	29.96	−.01	64.8	+ 0.1	73.6	55.9	3.79	+1.81	.....	Dawson, Yukon	.....	.....	.....	.....	.....	.....	.....	.....	.....	....

* Report incomplete.

District No. 1.—Total Precipitation, July, 1909.

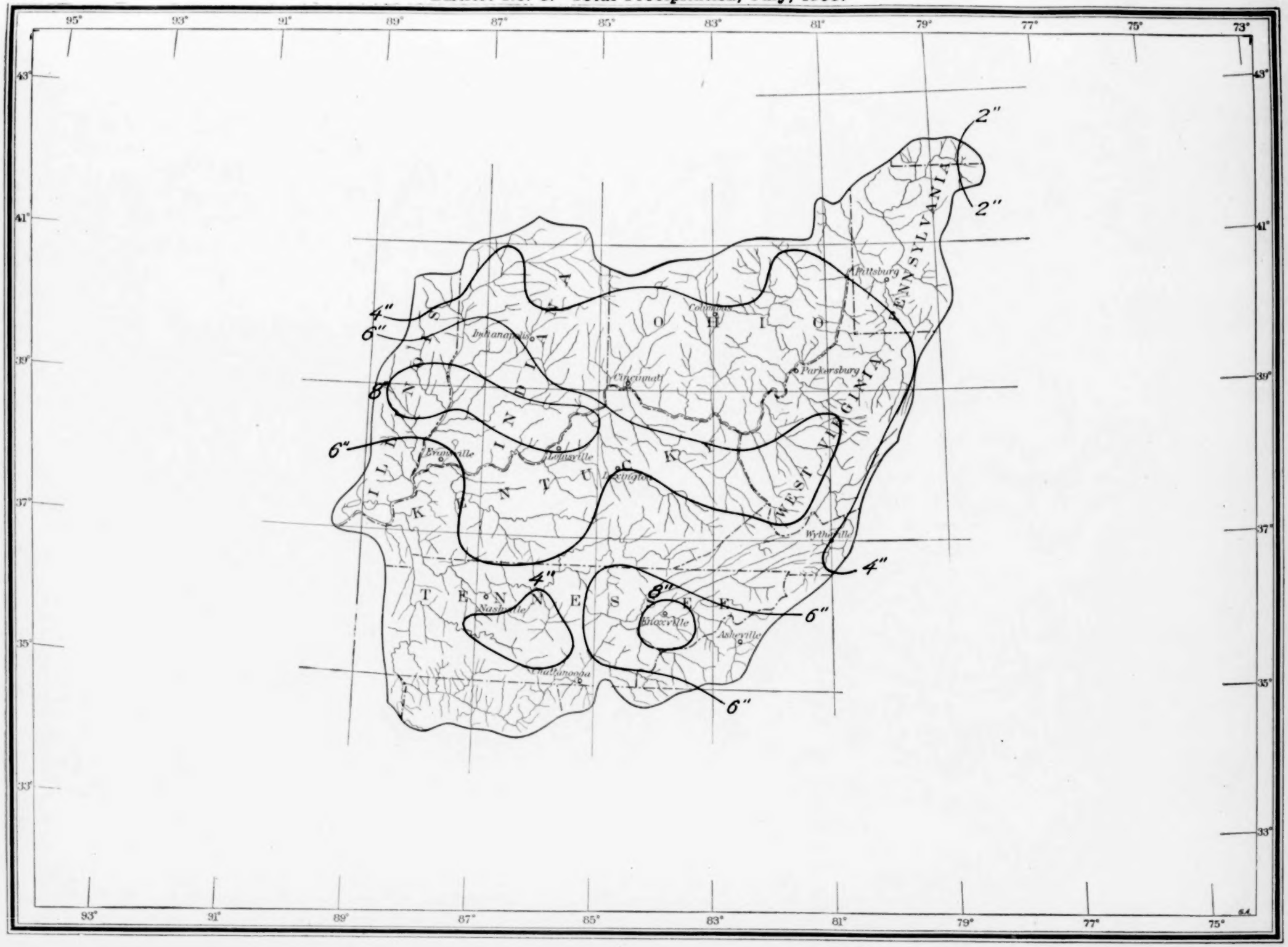
District No. 1.—Departure of the Mean Temperature from the Normal, July, 1909.

District No. 2.—Total Precipitation, July, 1909.

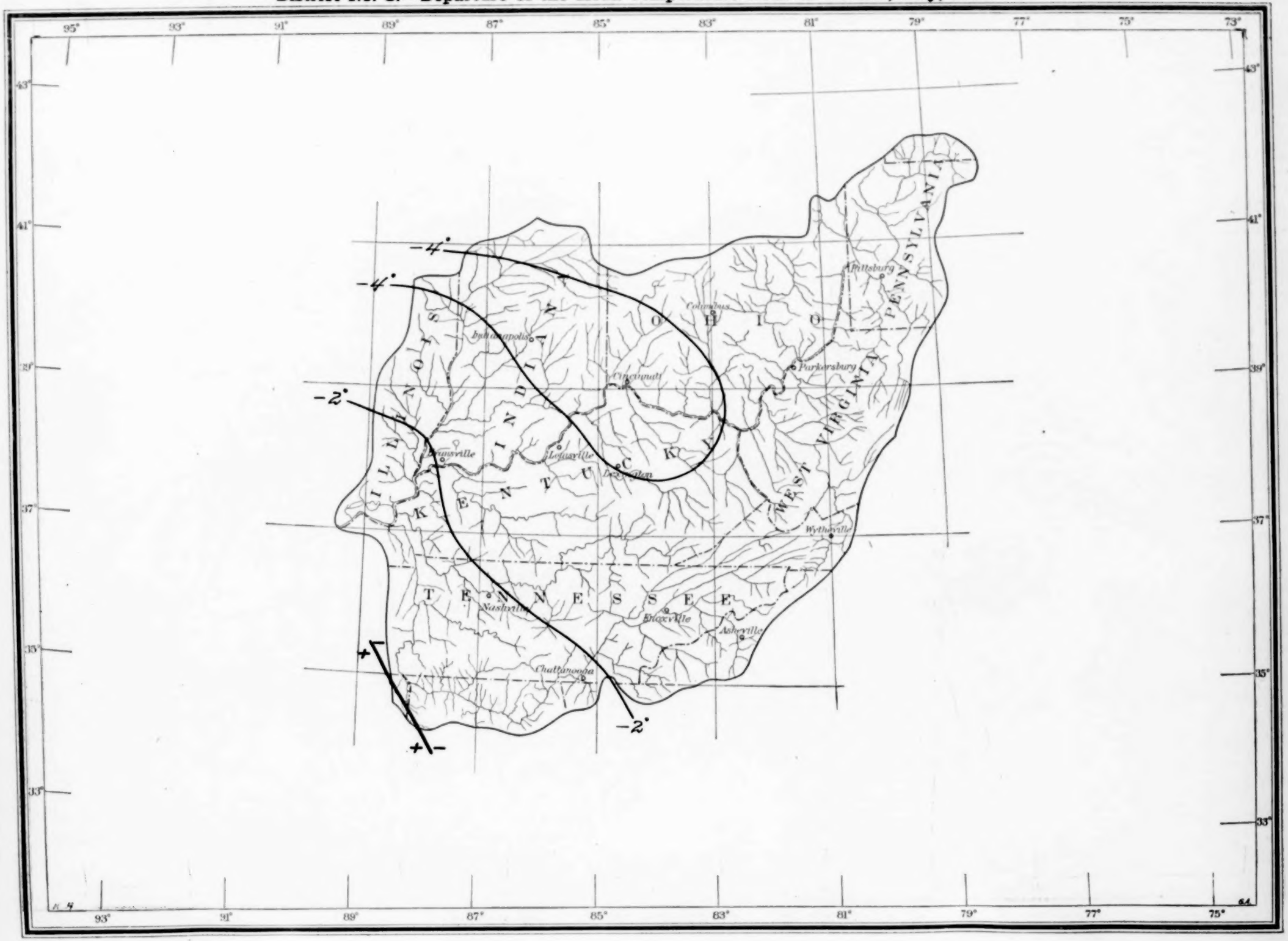
District No. 2.—Total Precipitation, July, 1909.

District No. 2.—Departure of the Mean Temperature from the Normal, July, 1909.

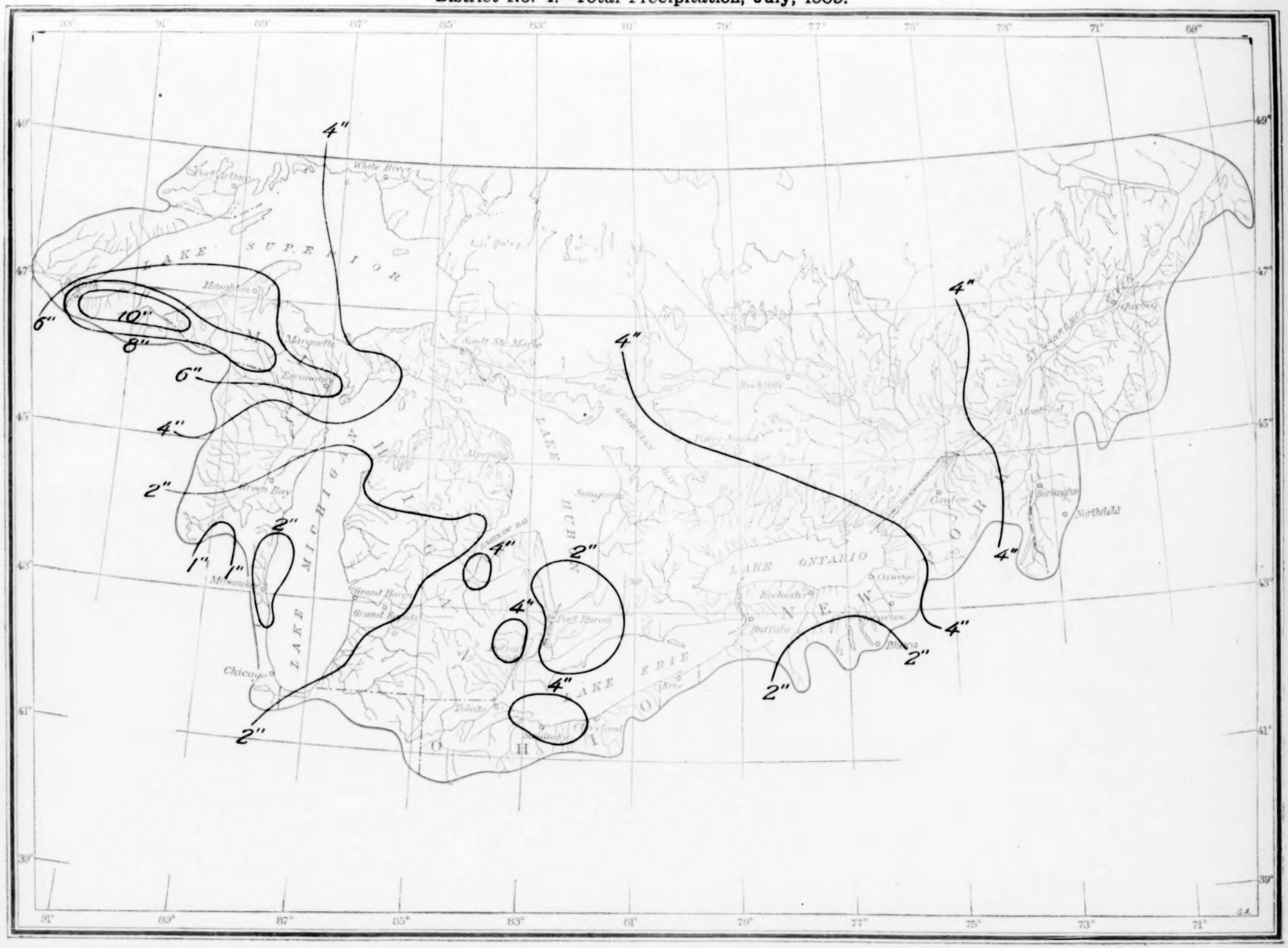
District No. 3.—Total Precipitation, July, 1909.



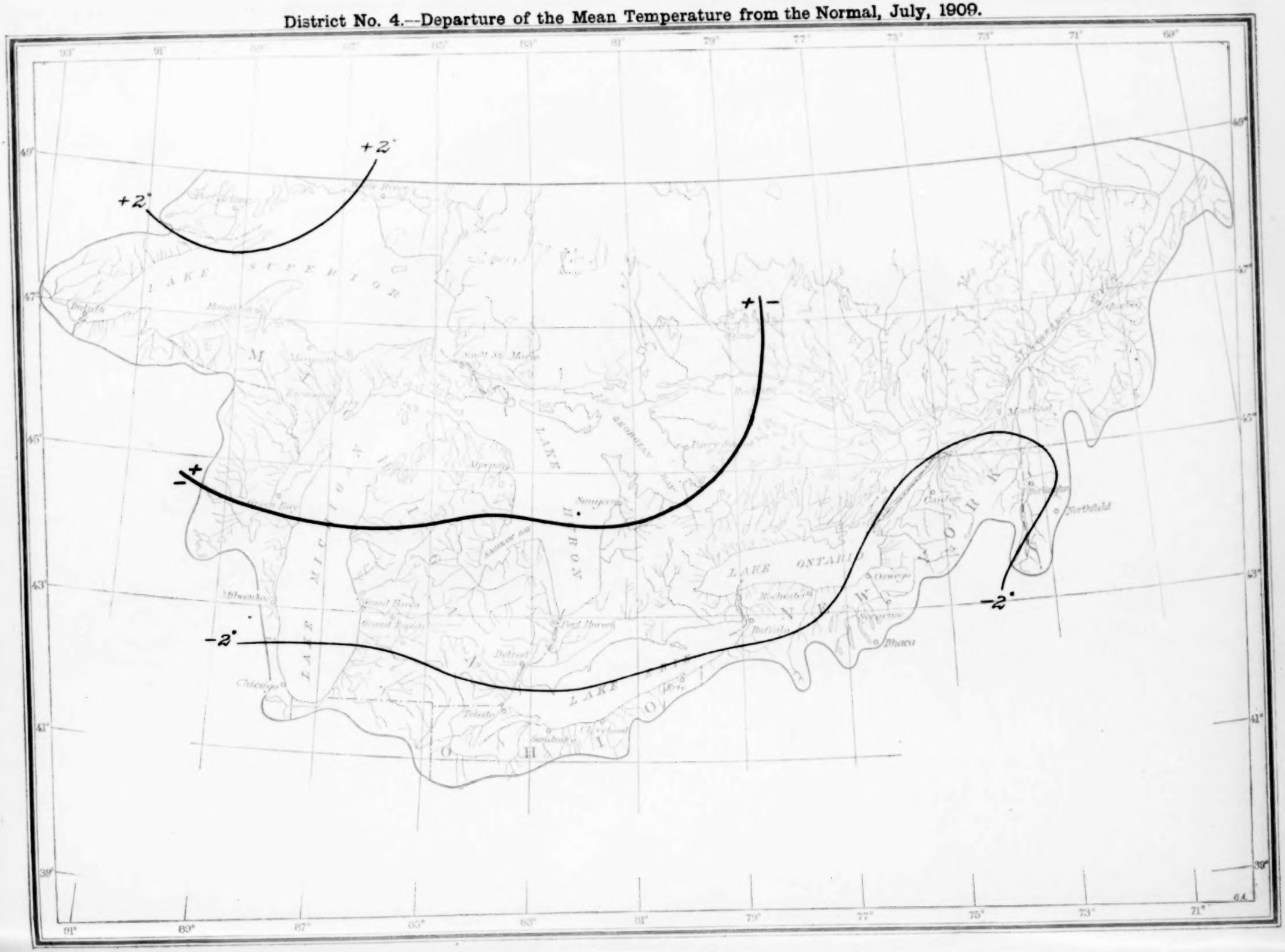
District No. 3.—Departure of the Mean Temperature from the Normal, July, 1909.



District No. 4.—Total Precipitation, July, 1909.

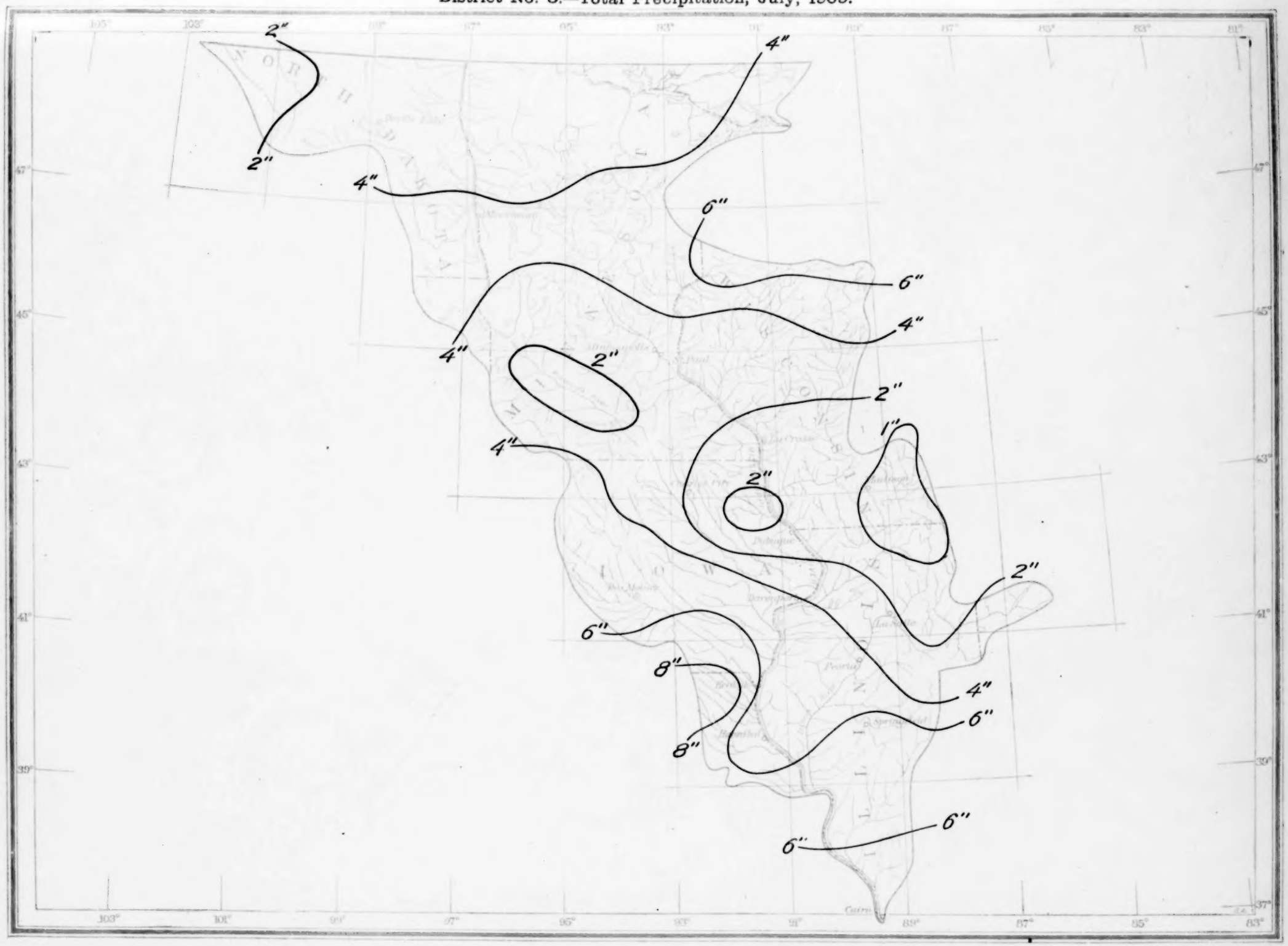


District No. 4.—Departure of the Mean Temperature from the Normal, July, 1909.

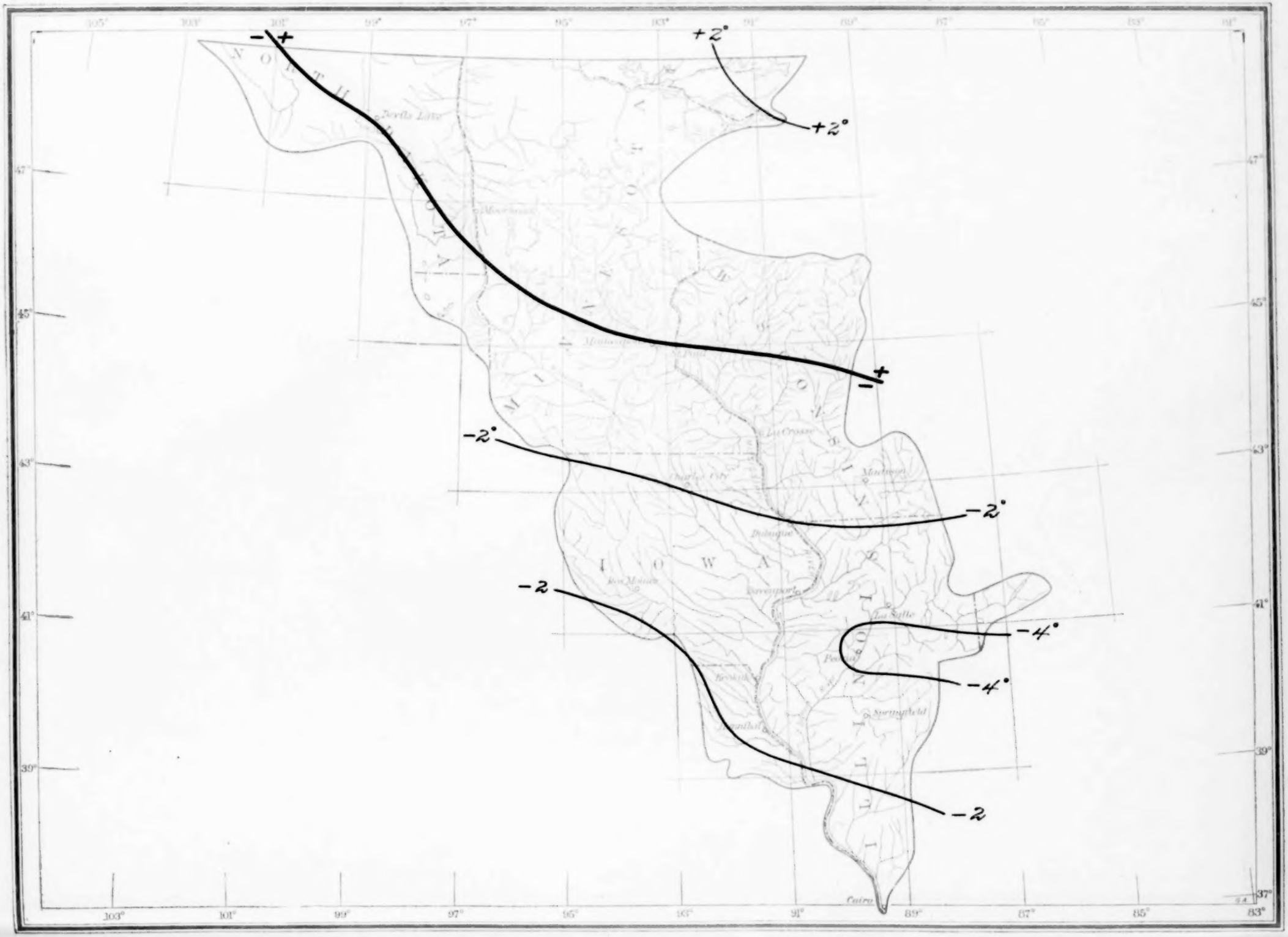


District No. 5.—Total Precipitation, July, 1909.

District No. 5.—Total Precipitation, July, 1909.

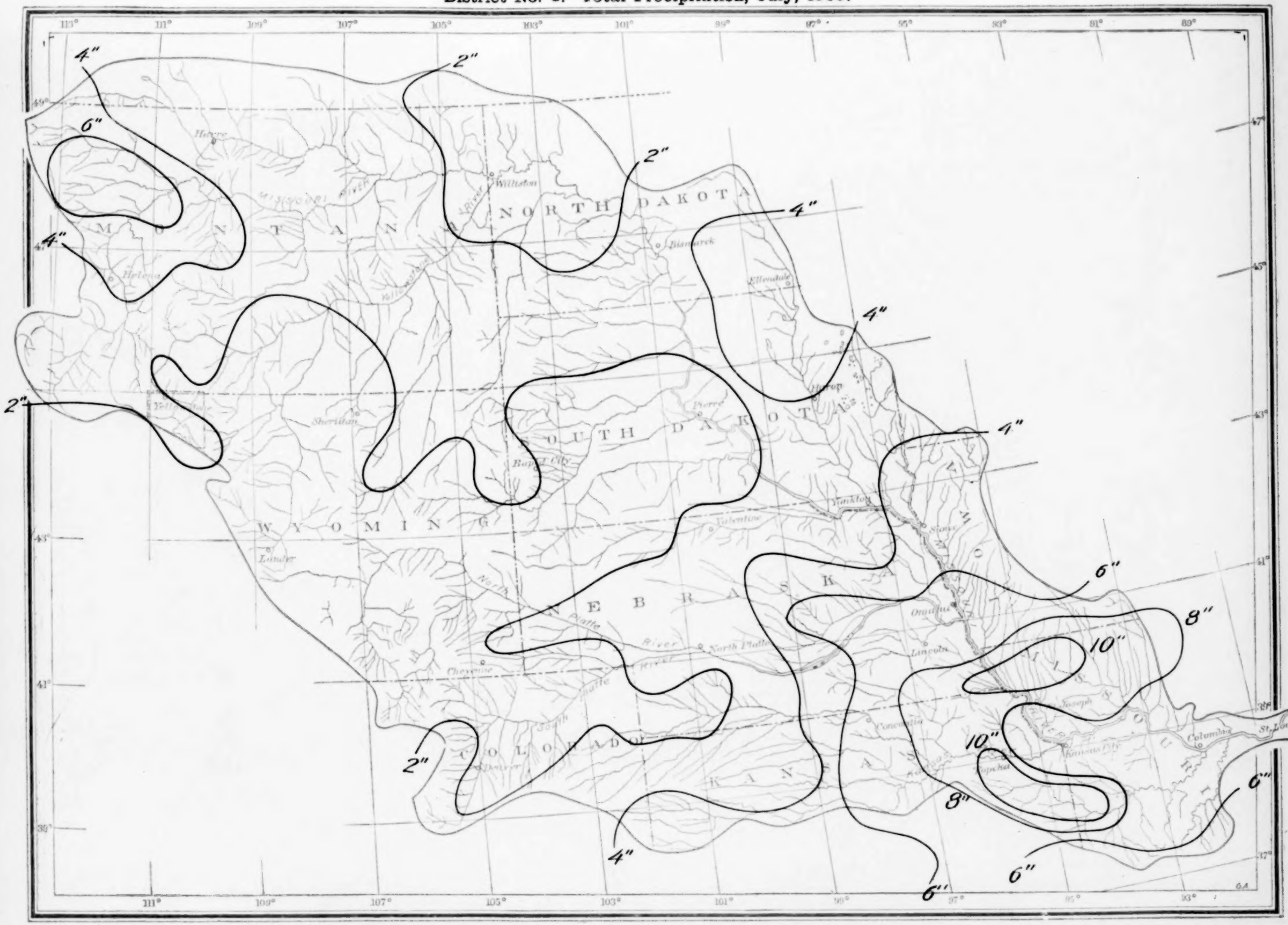


District No. 5.—Departure of the Mean Temperature from the Normal, July, 1909.

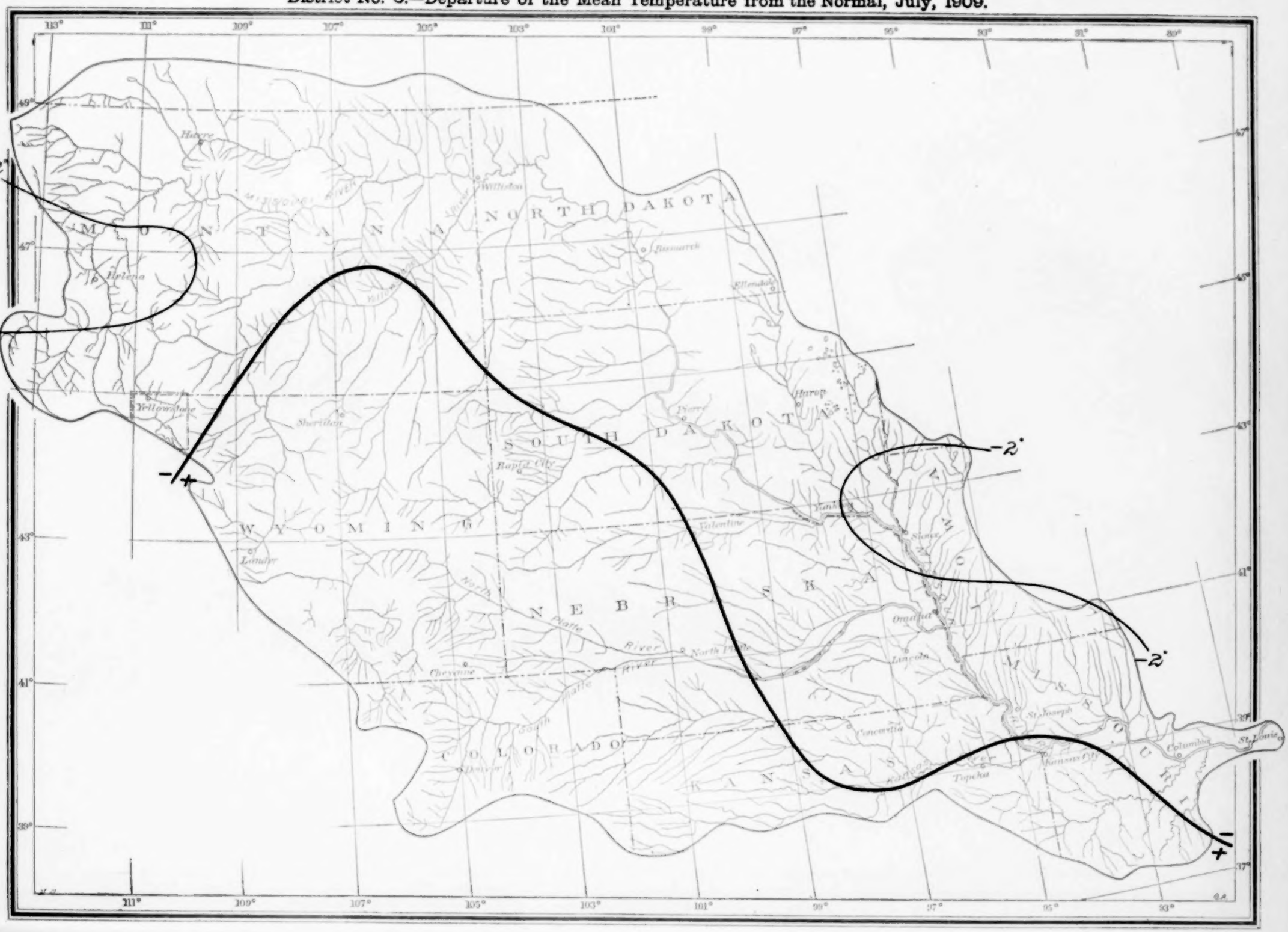


103°	101°	99°	97°	95°	93°	91°	89°	87°	85°	83°

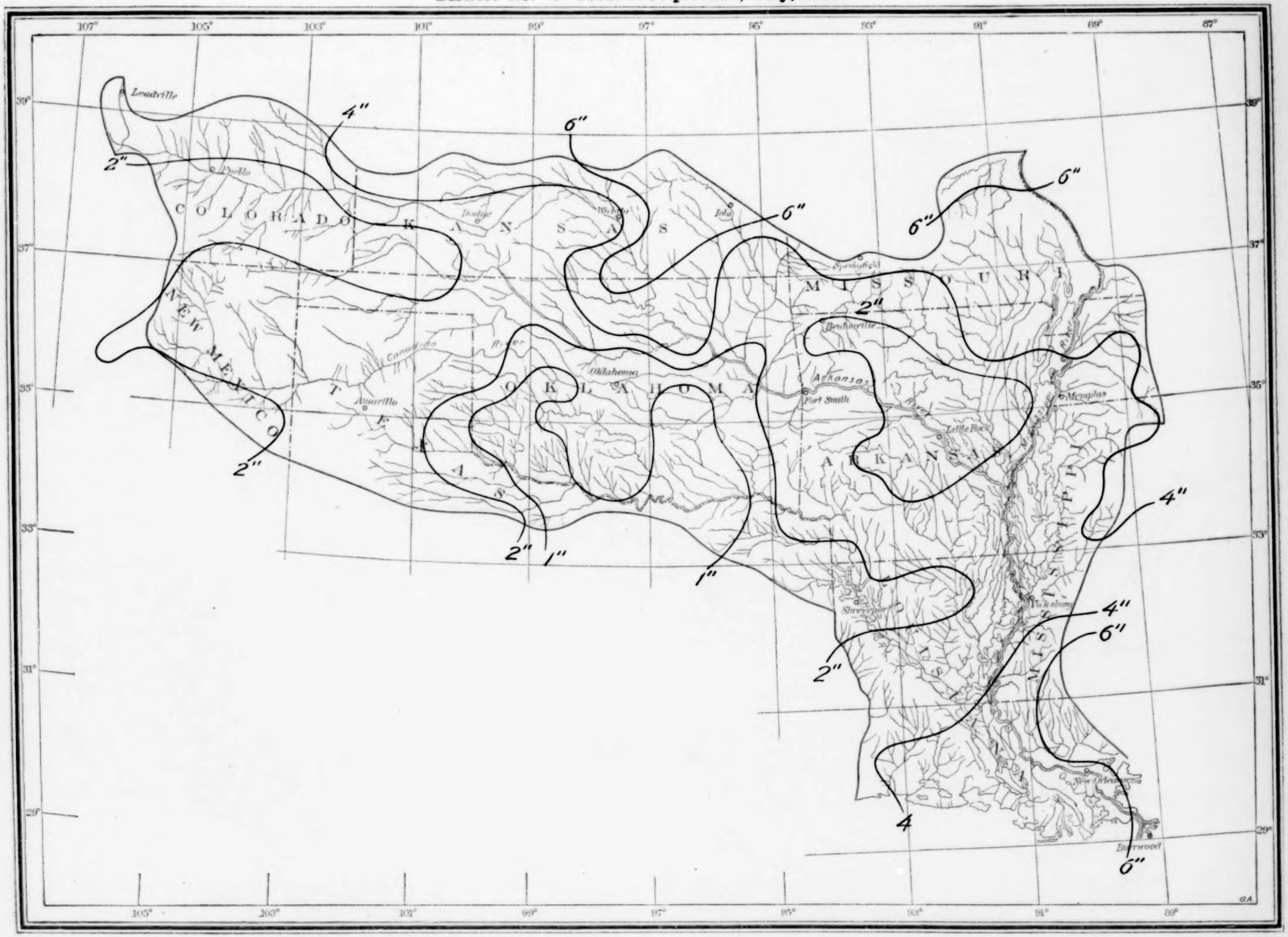
District No. 6.—Total Precipitation, July, 1909.



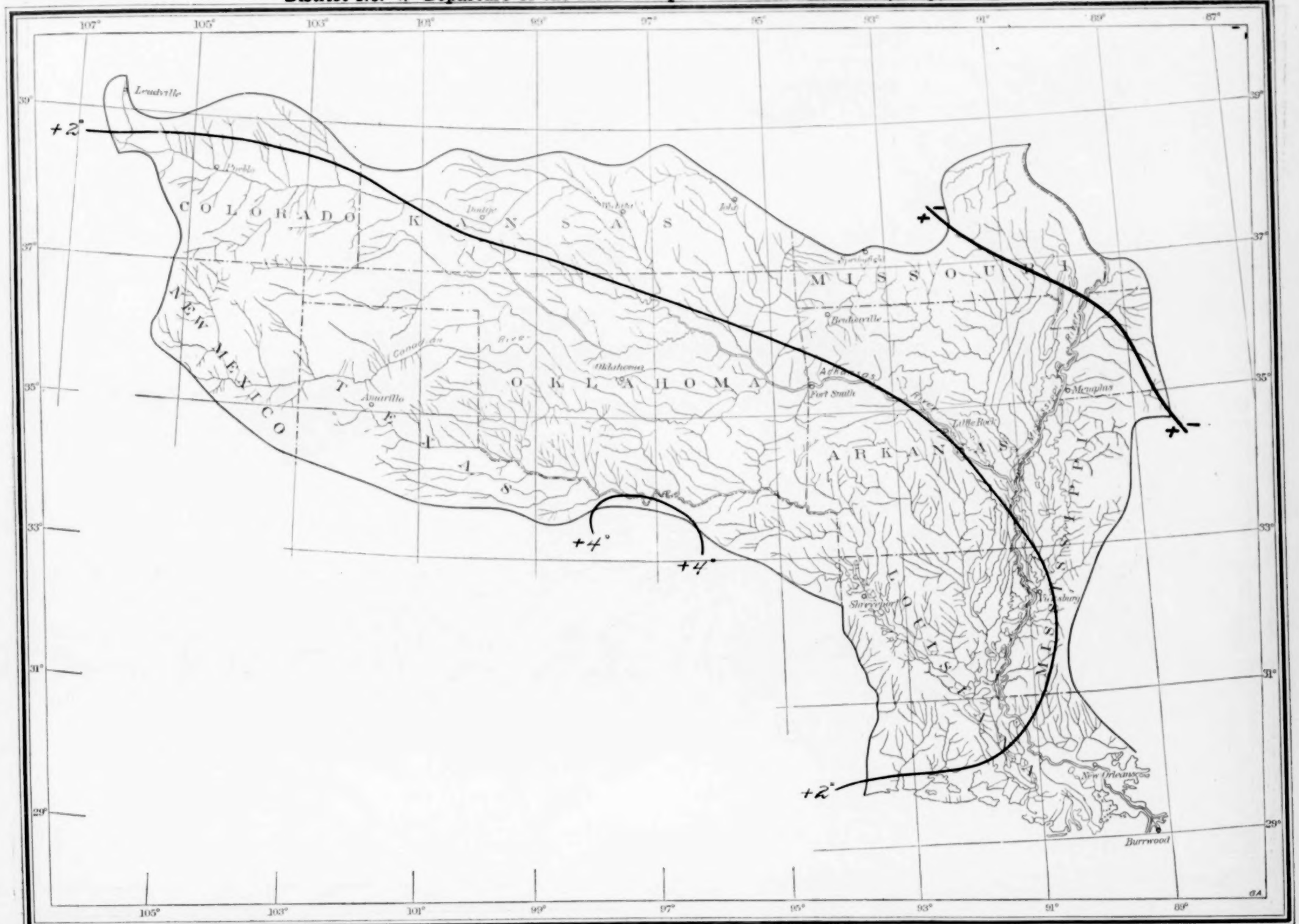
District No. 6.—Departure of the Mean Temperature from the Normal, July, 1909.



District No. 7.—Total Precipitation, July, 1909.

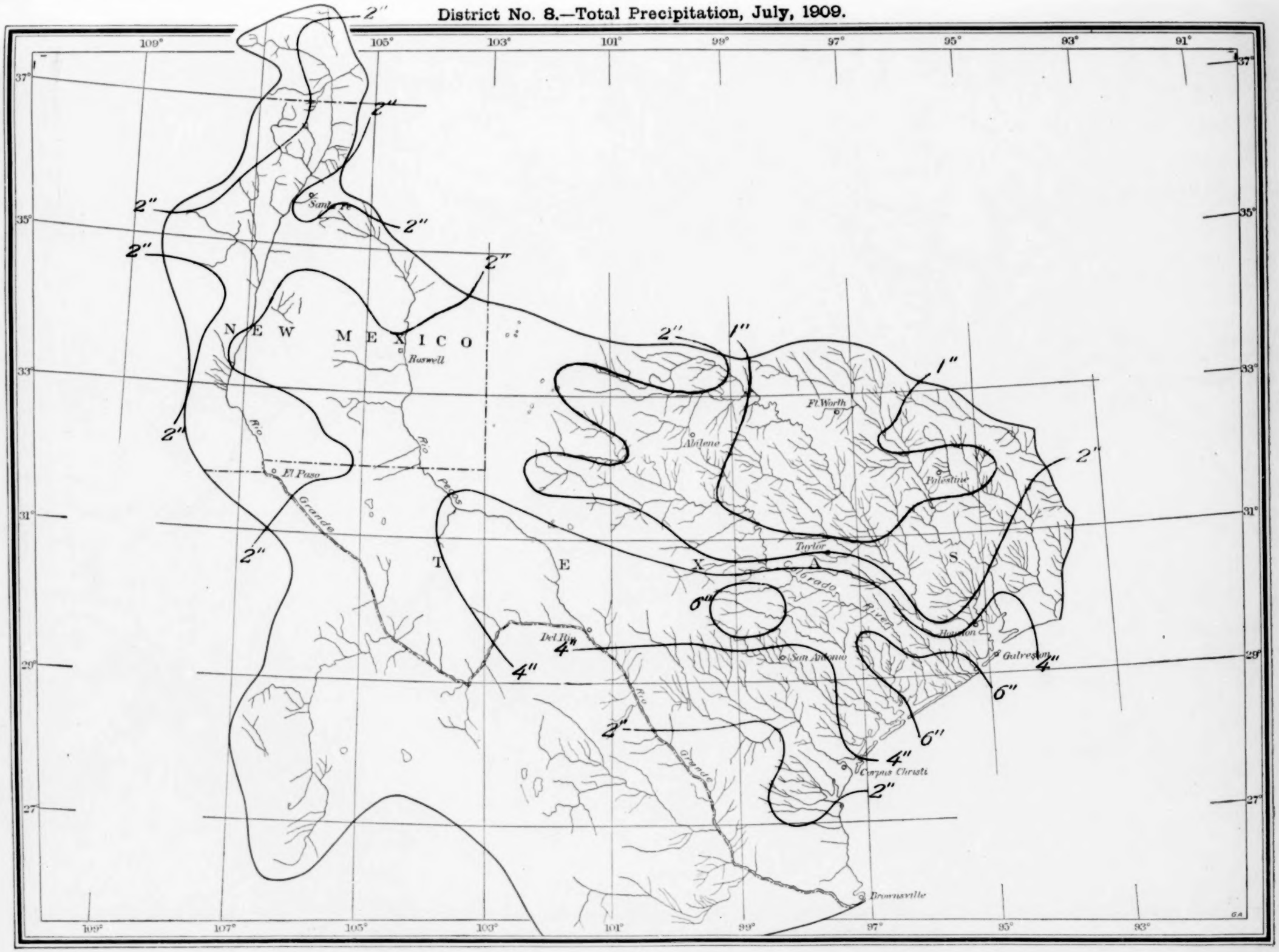


District No. 7.—Departure of the Mean Temperature from the Normal, July, 1909.

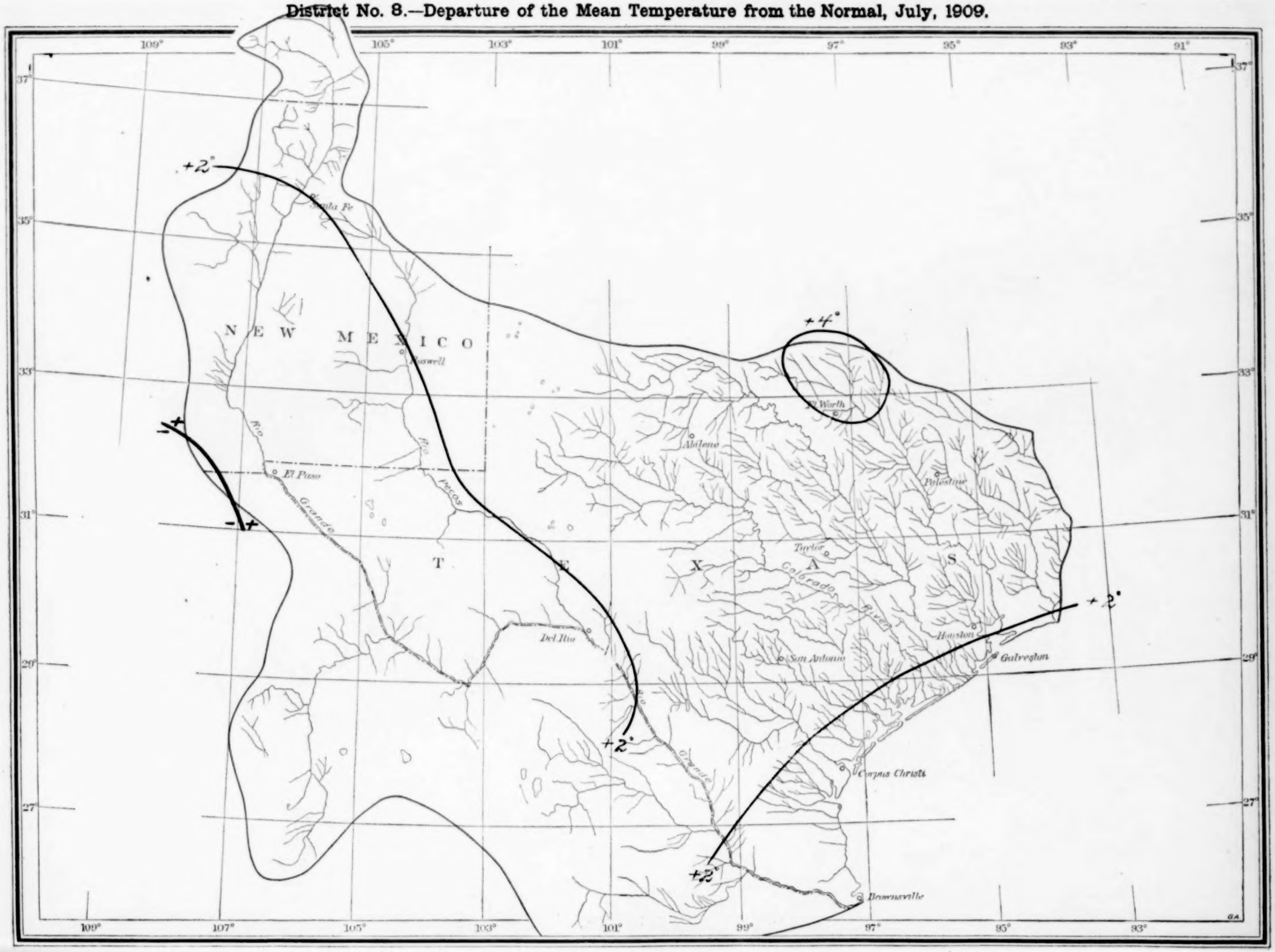


District No. 8.—Total Precipitation, July, 1909.

District No. 8.—Total Precipitation, July, 1909.

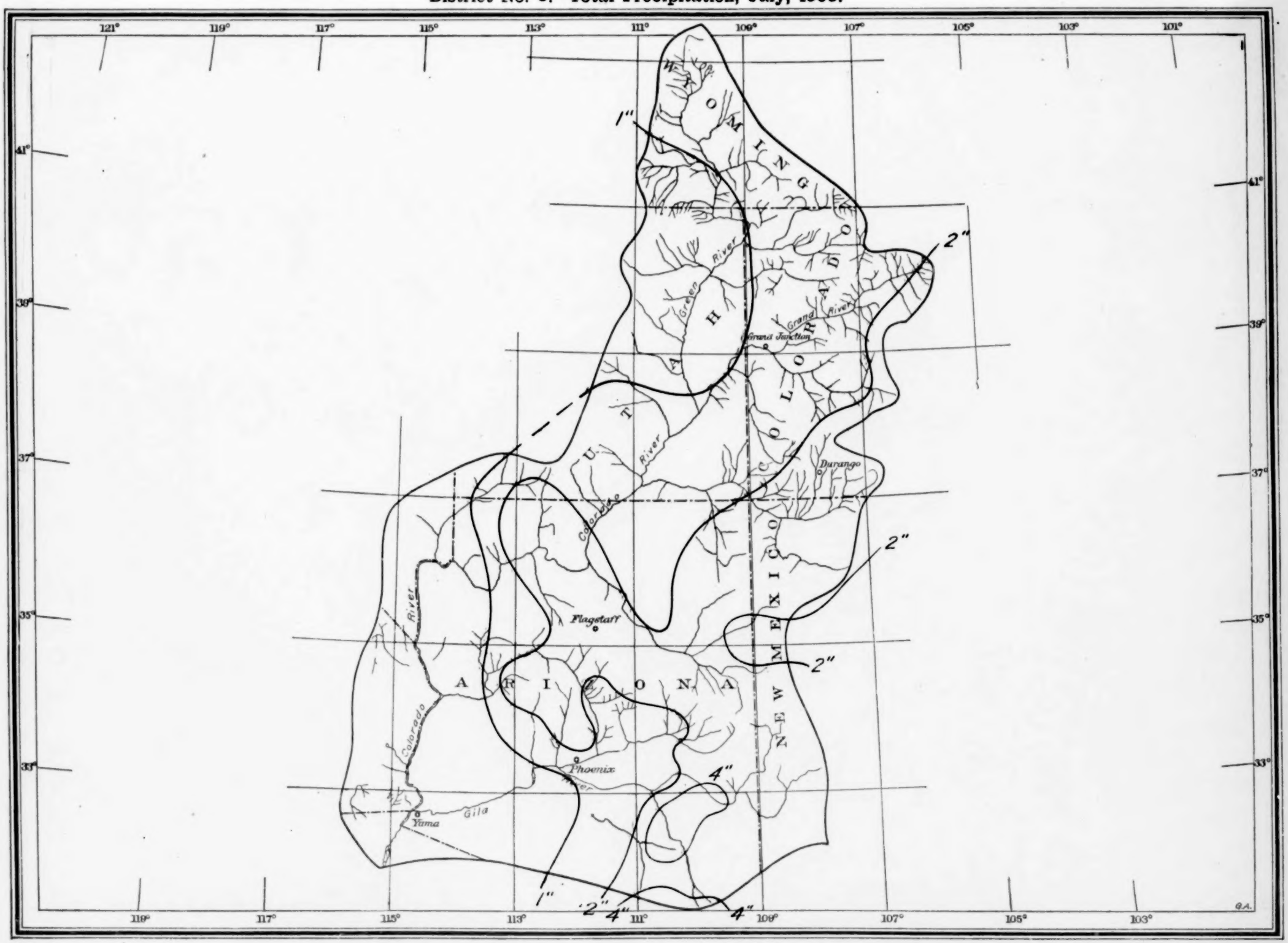


District No. 8.—Departure of the Mean Temperature from the Normal, July, 1909.

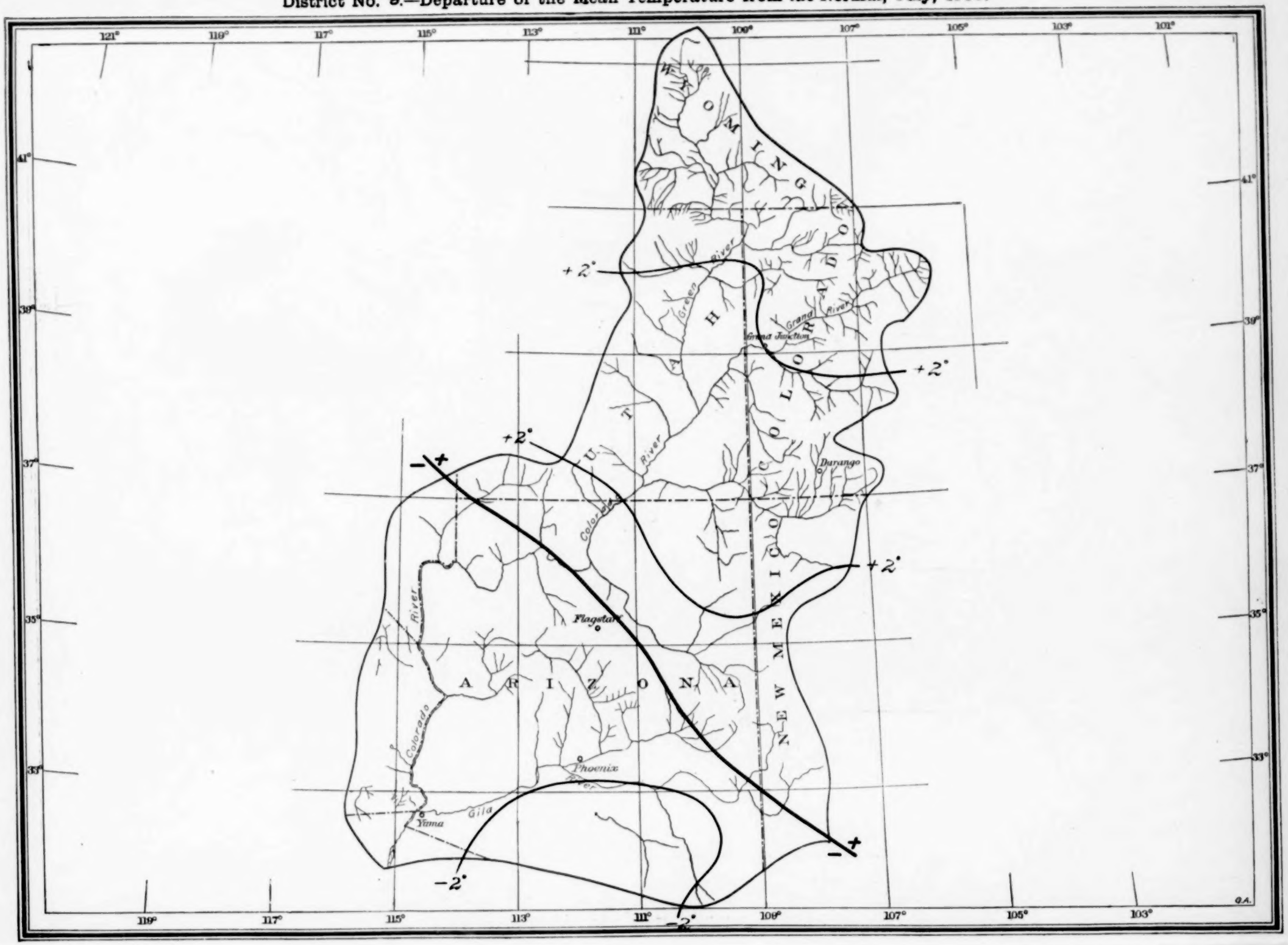


District No. 9.—Total Precipitation, July, 1909.

District No. 9.—Total Precipitation, July, 1909.

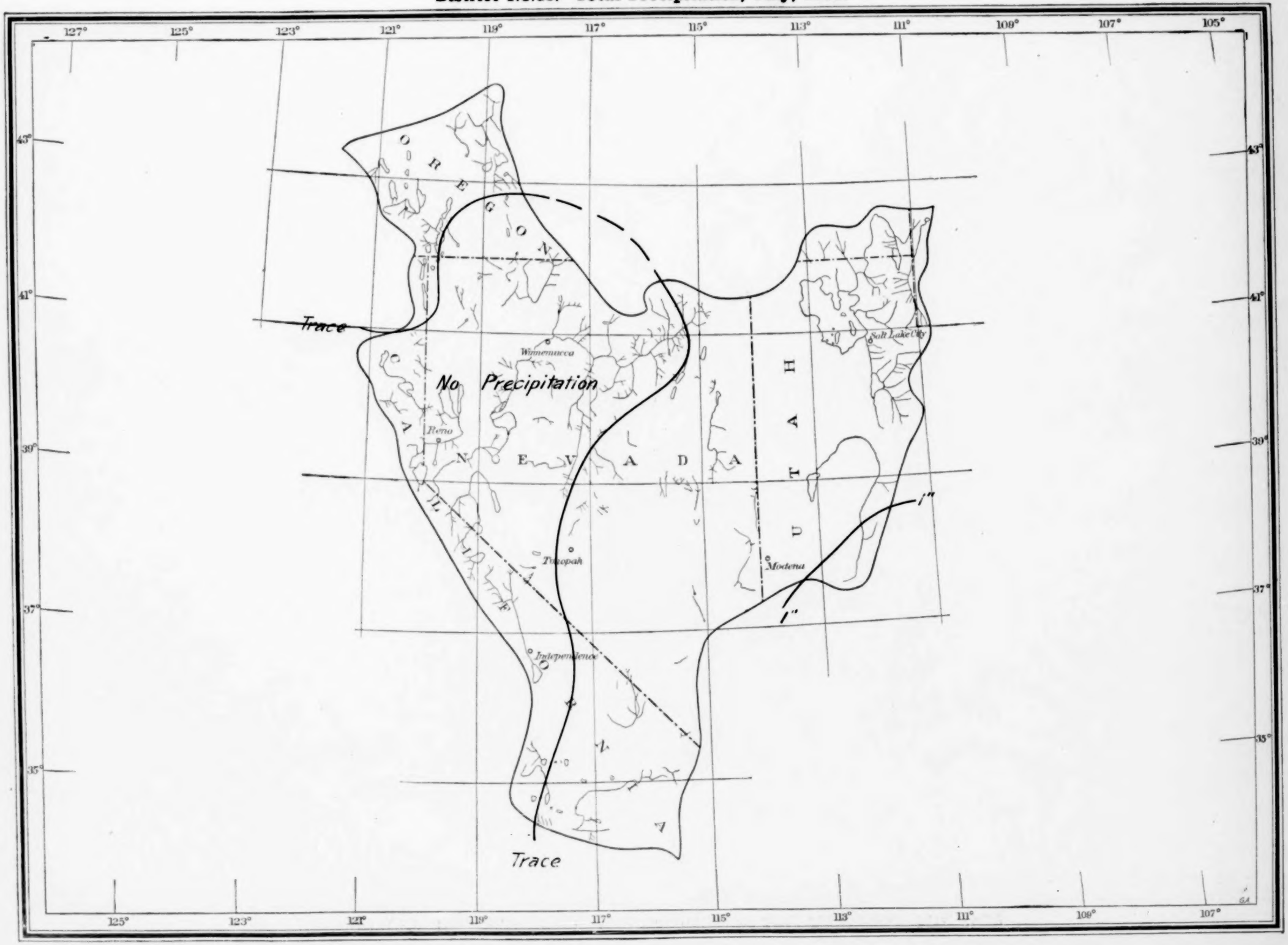


District No. 9.—Departure of the Mean Temperature from the Normal, July, 1909.

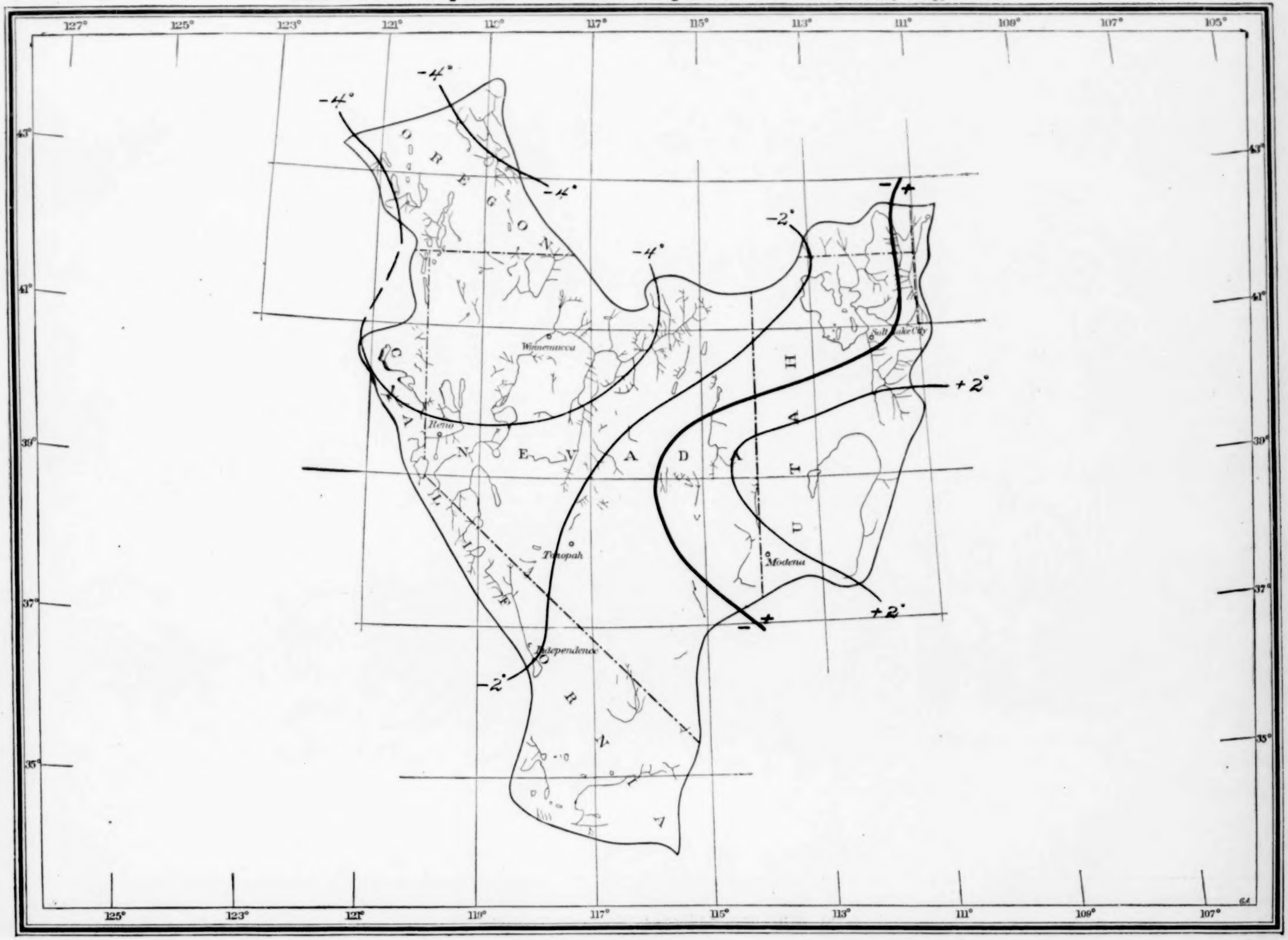


District No. 10.—Total Precipitation, July, 1909.

District No.10.—Total Precipitation, July, 1909.

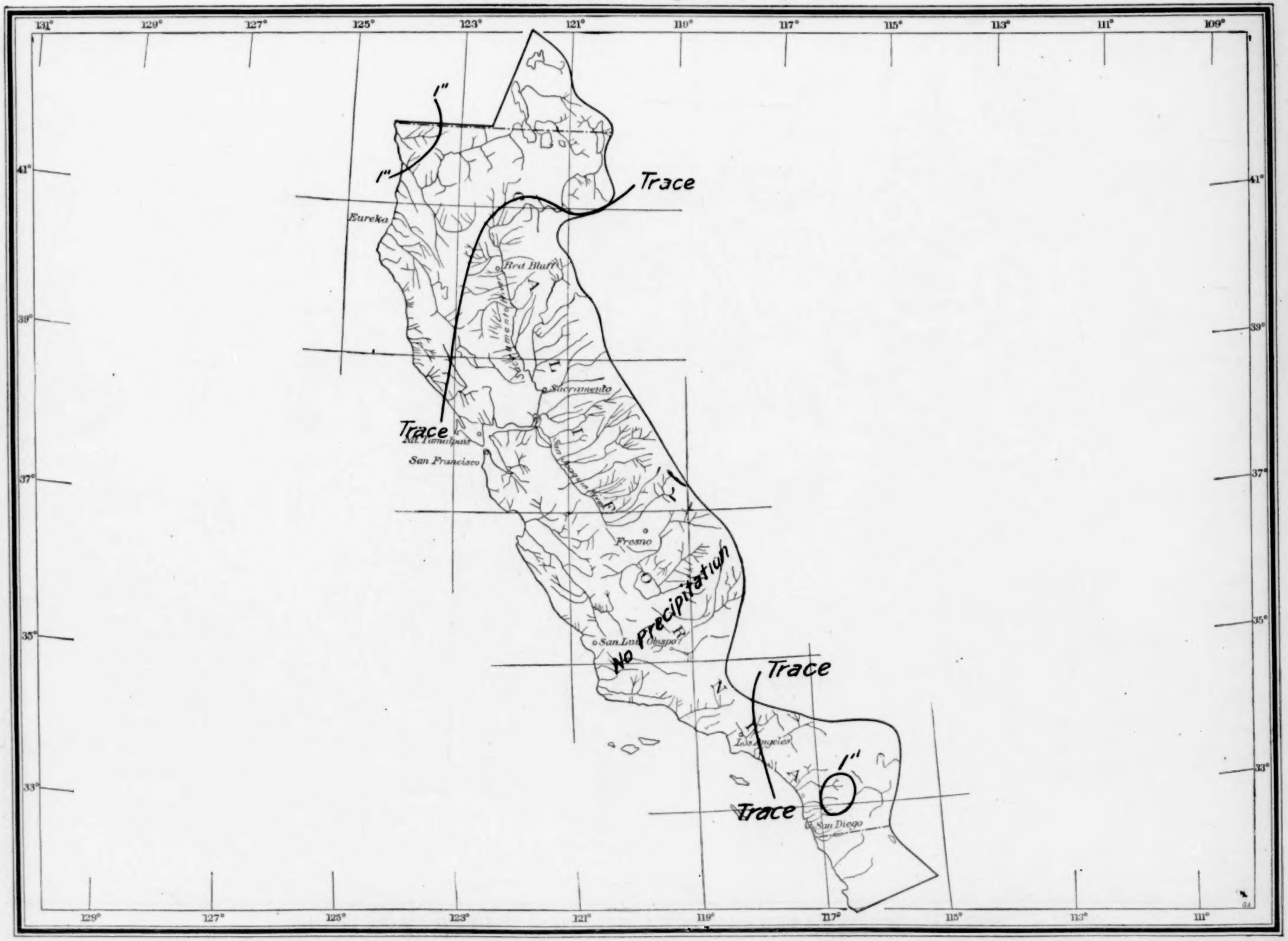


District No. 10.—Departure of the Mean Temperature from the Normal, July, 1909.

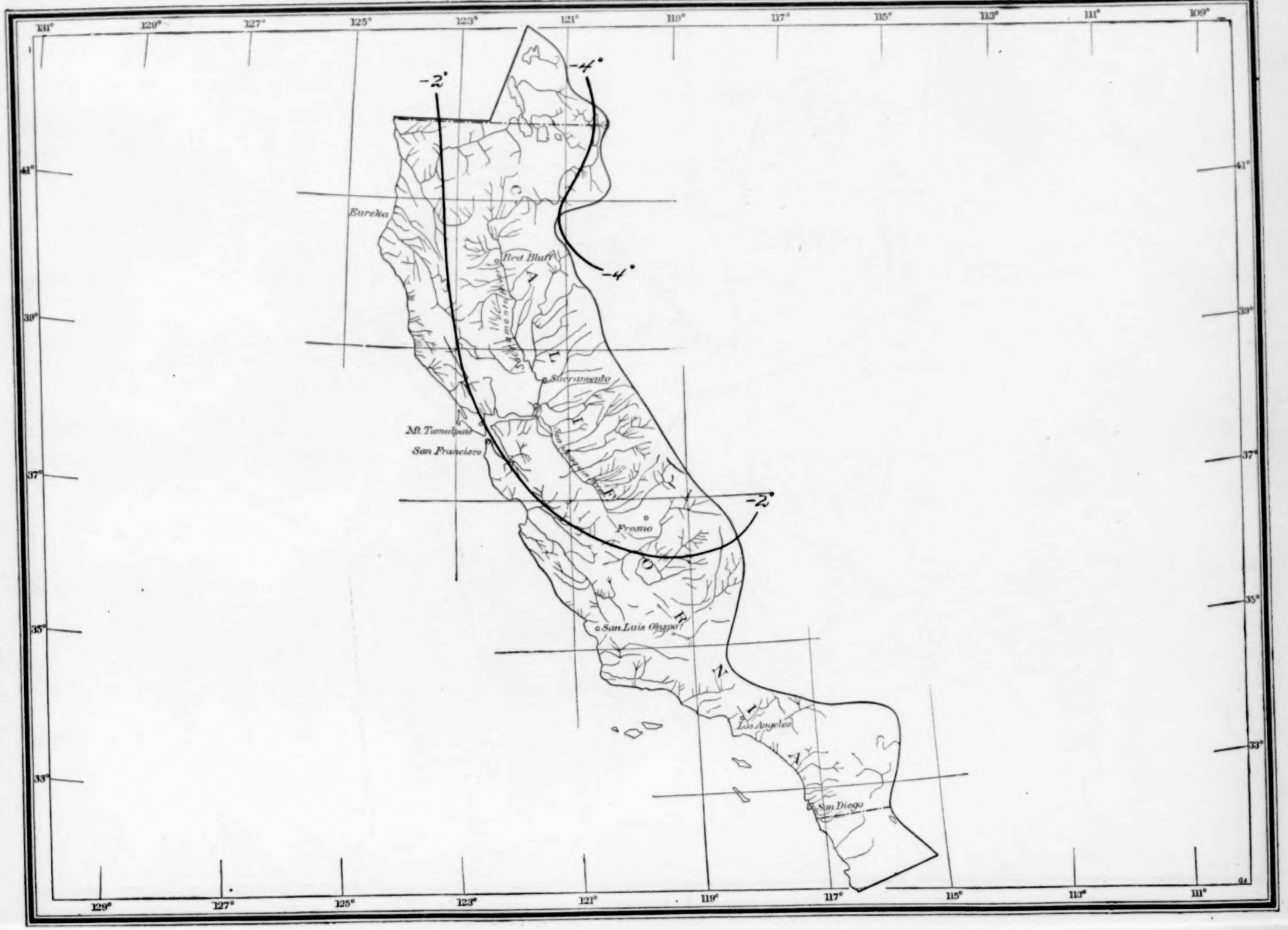


District No. 11.—Total Precipitation, July, 1909.

District No. 11.—Total Precipitation, July, 1909.

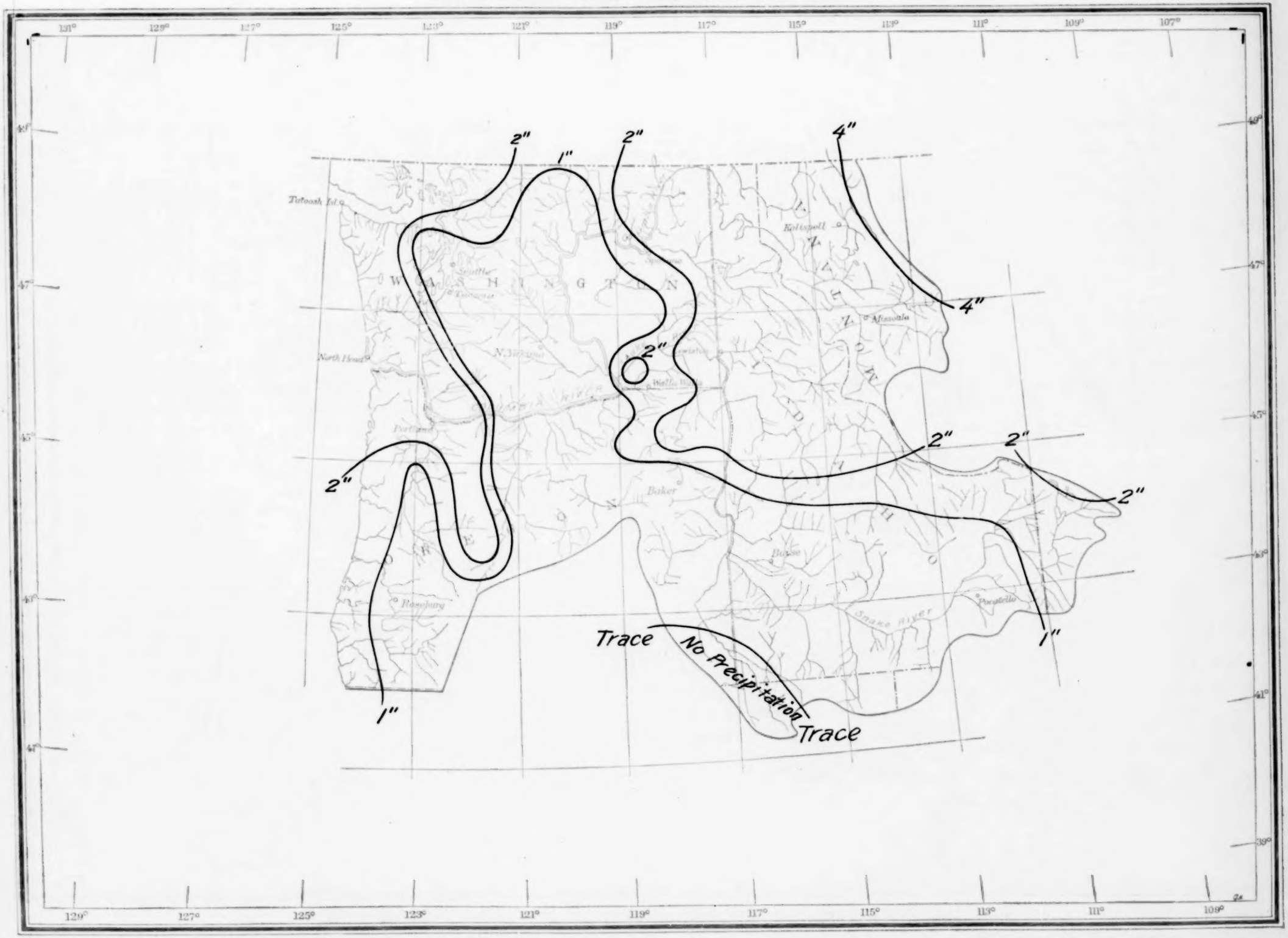


District No. 11.—Departure of the Mean Temperature from the Normal, July, 1909.



District No. 12.—Total Precipitation, July, 1909.

District No.12.—Total Precipitation, July, 1909.



District No. 12.—Departure of the Mean Temperature from the Normal, July, 1909.

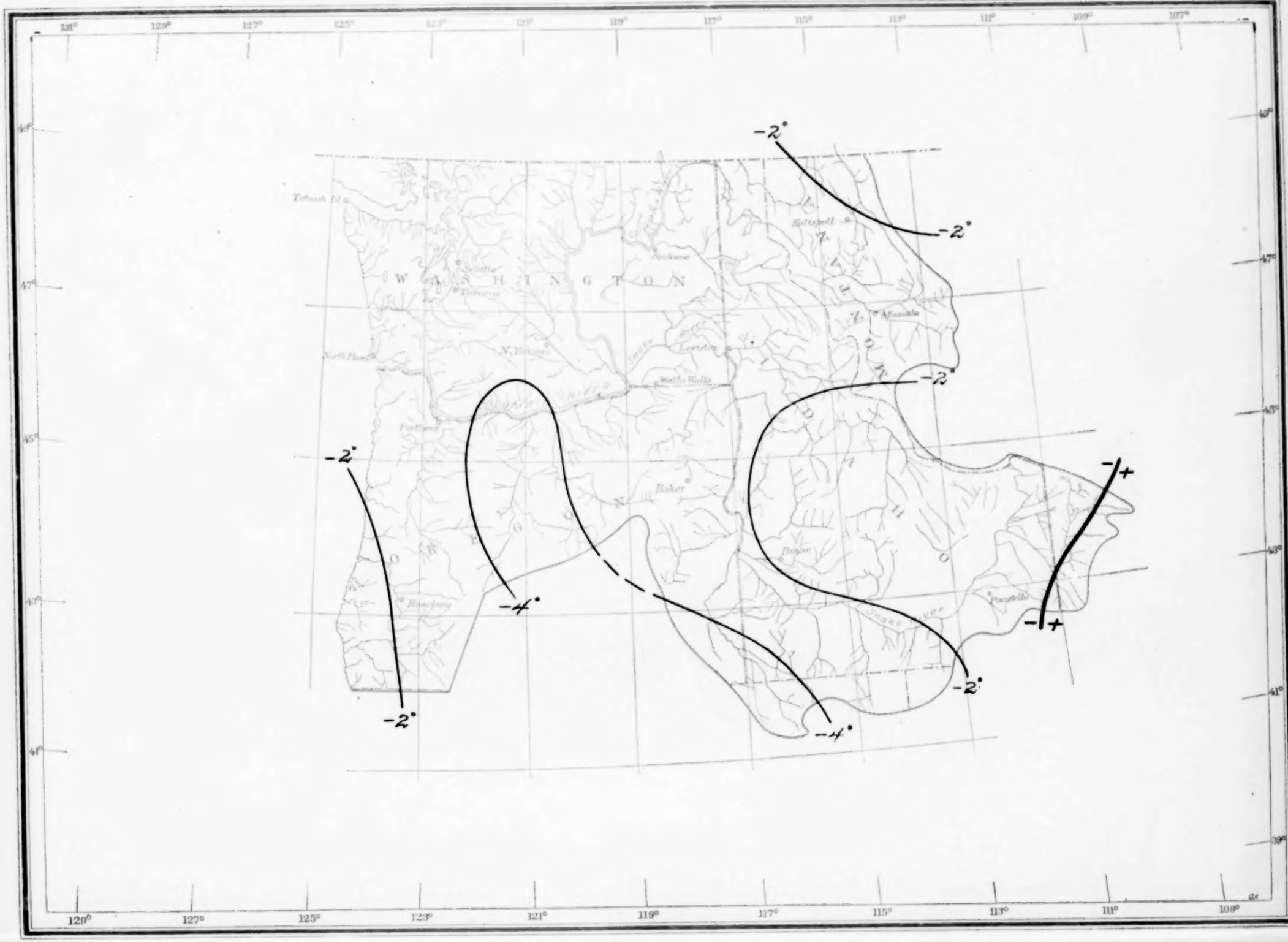


Chart I. Hydrographs of Several Principal Rivers, July, 1909.

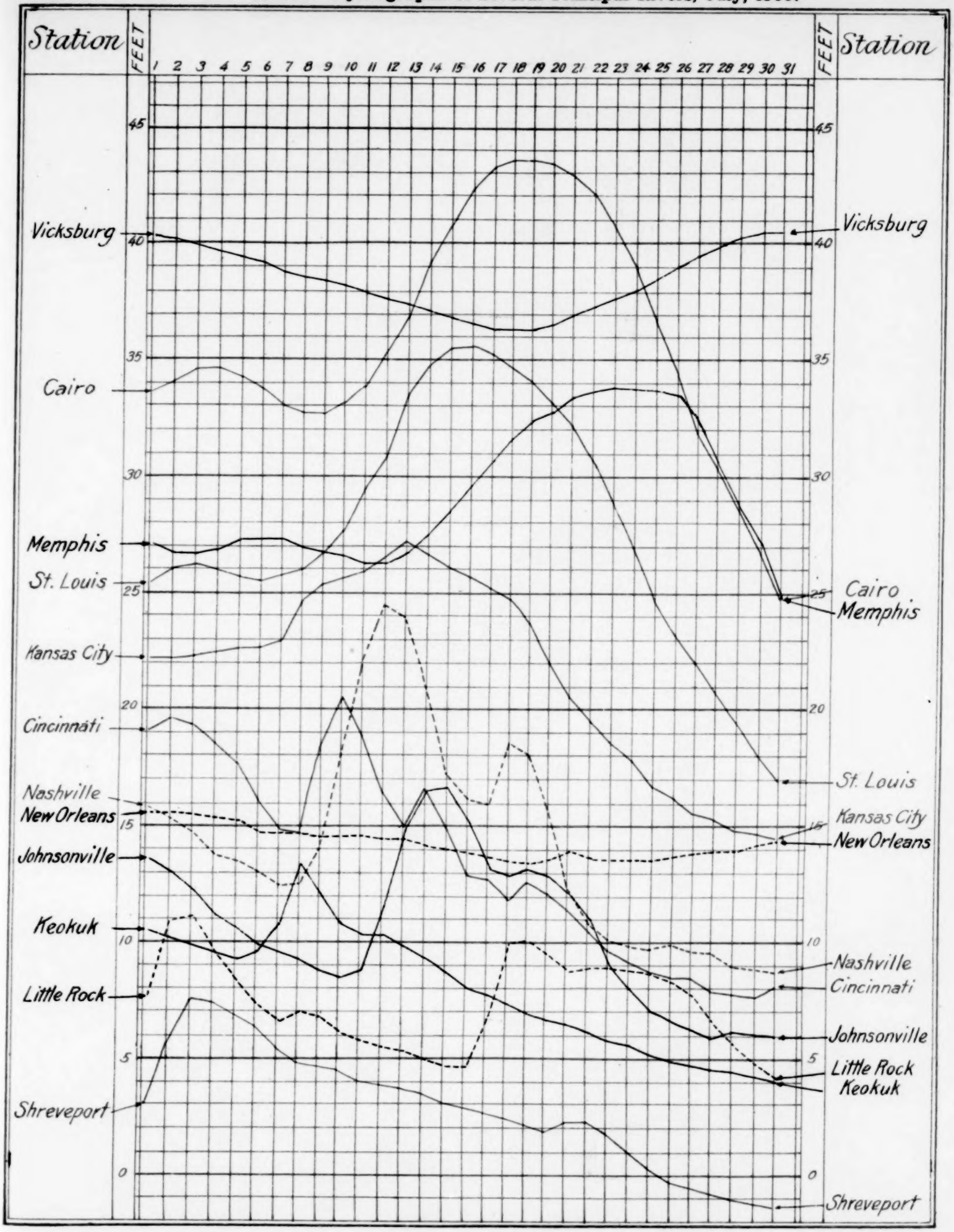


Chart II. Tracks of Centers of High Areas, July, 1909.

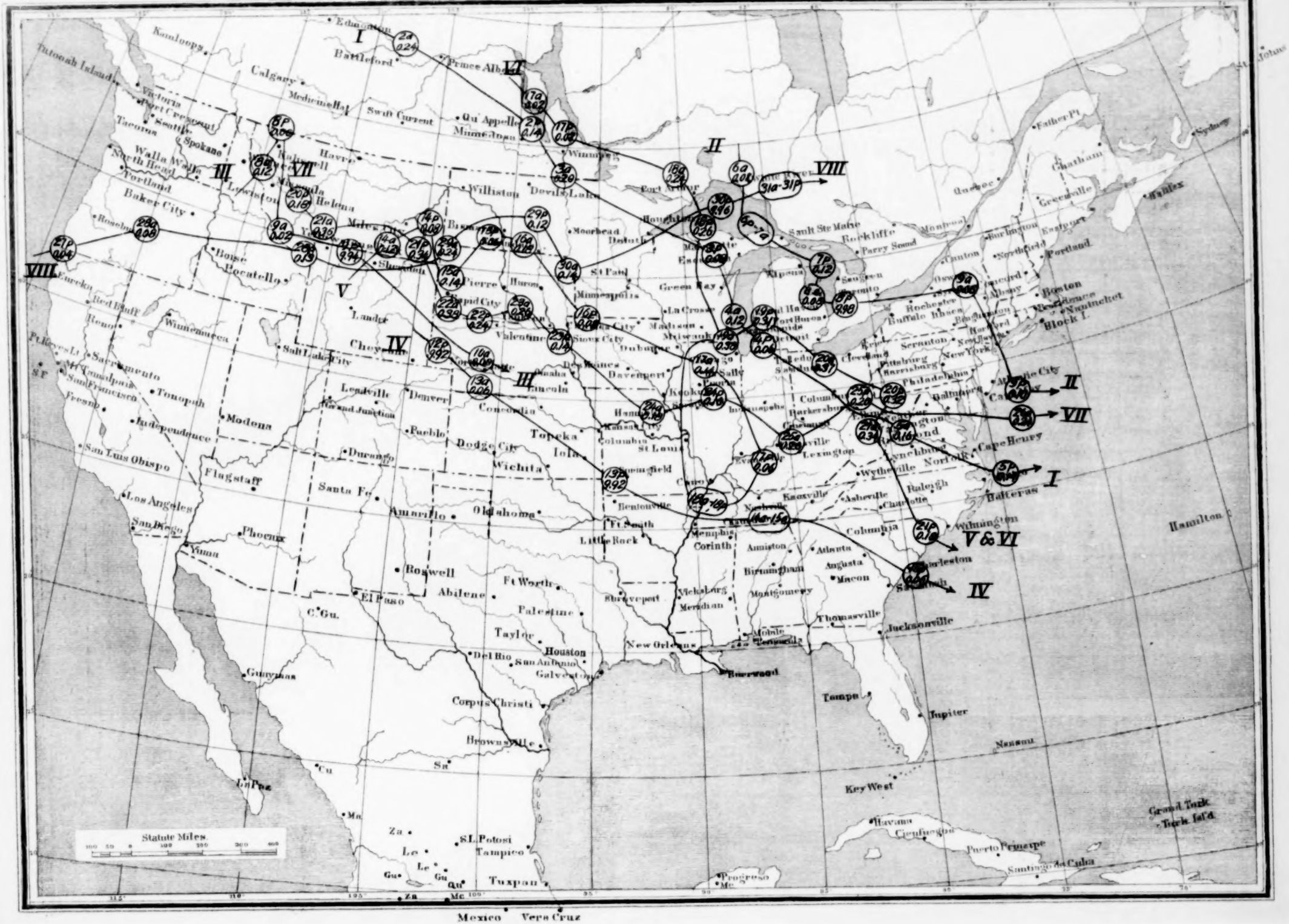


Chart III. Tracks of Centers of Low Areas, July, 1909.

Chart III. Tracks of Centers of Low Areas, July, 1909.

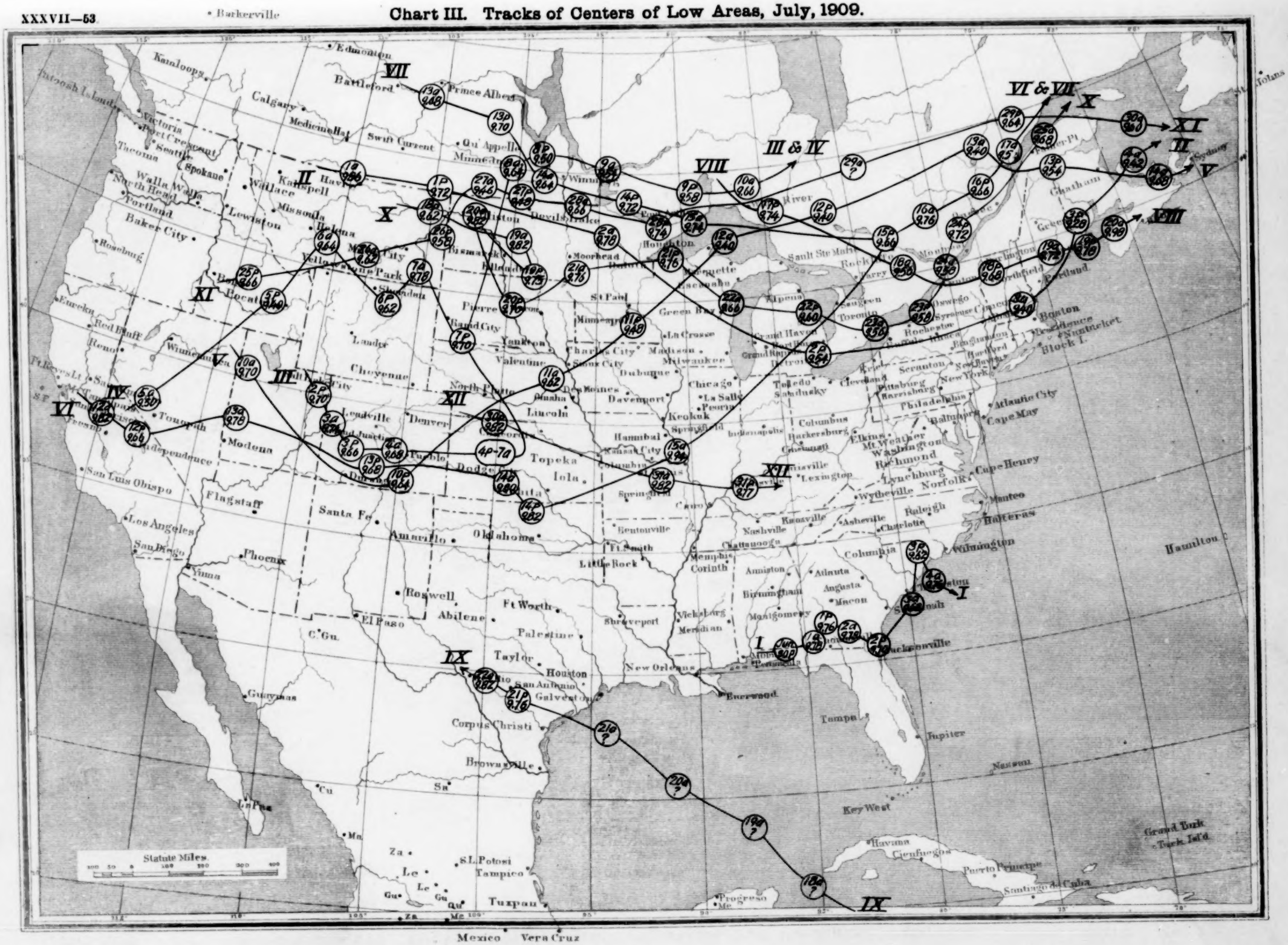


Chart IV. Departure of the Mean Temperature from the Normal, July, 1909.

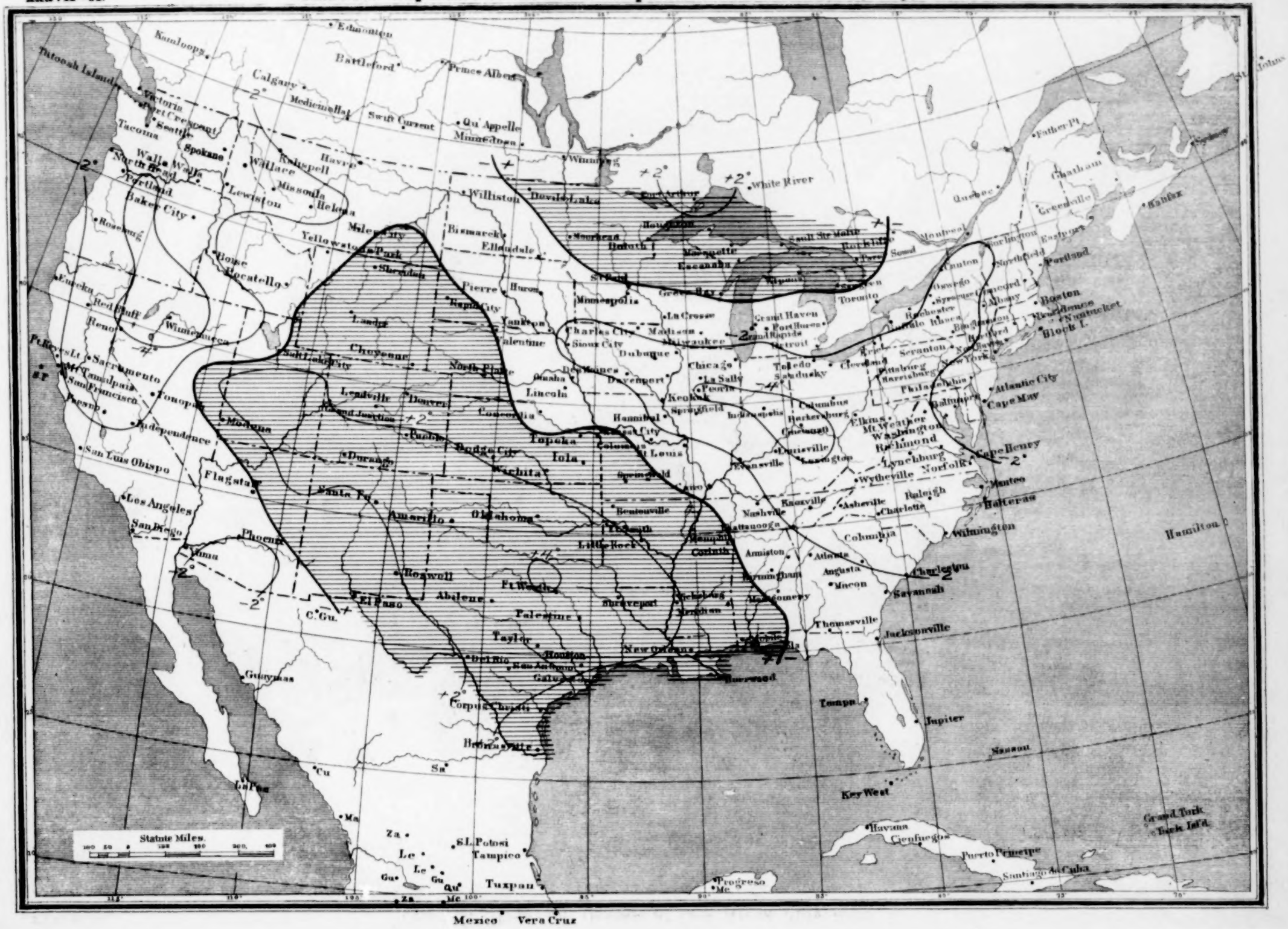


Chart V. Total Precipitation, July, 1909.

Chart V. Total Precipitation, July, 1909.

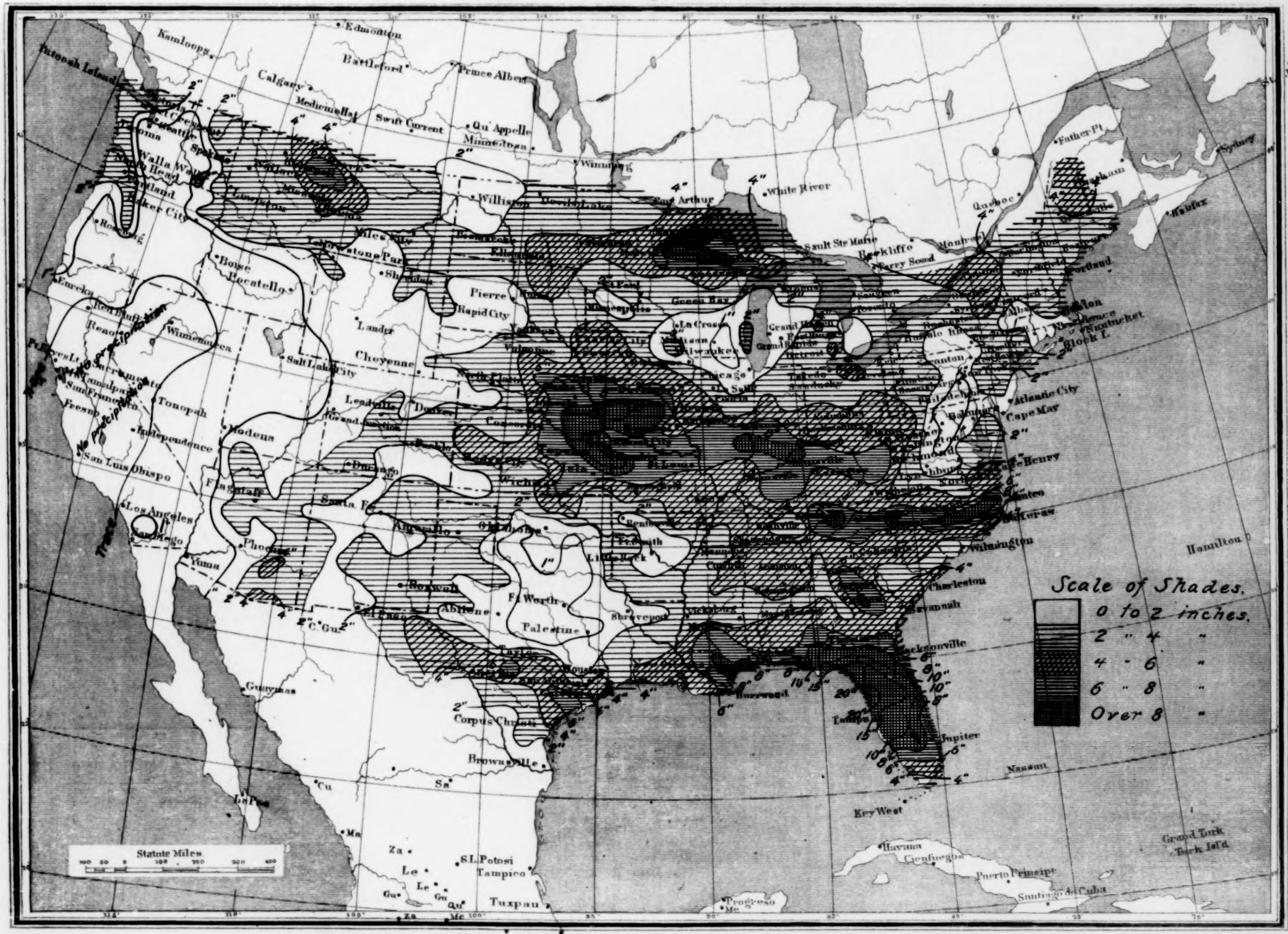


Chart VI. Percentage of Clear Sky between Sunrise and Sunset, July, 1909.

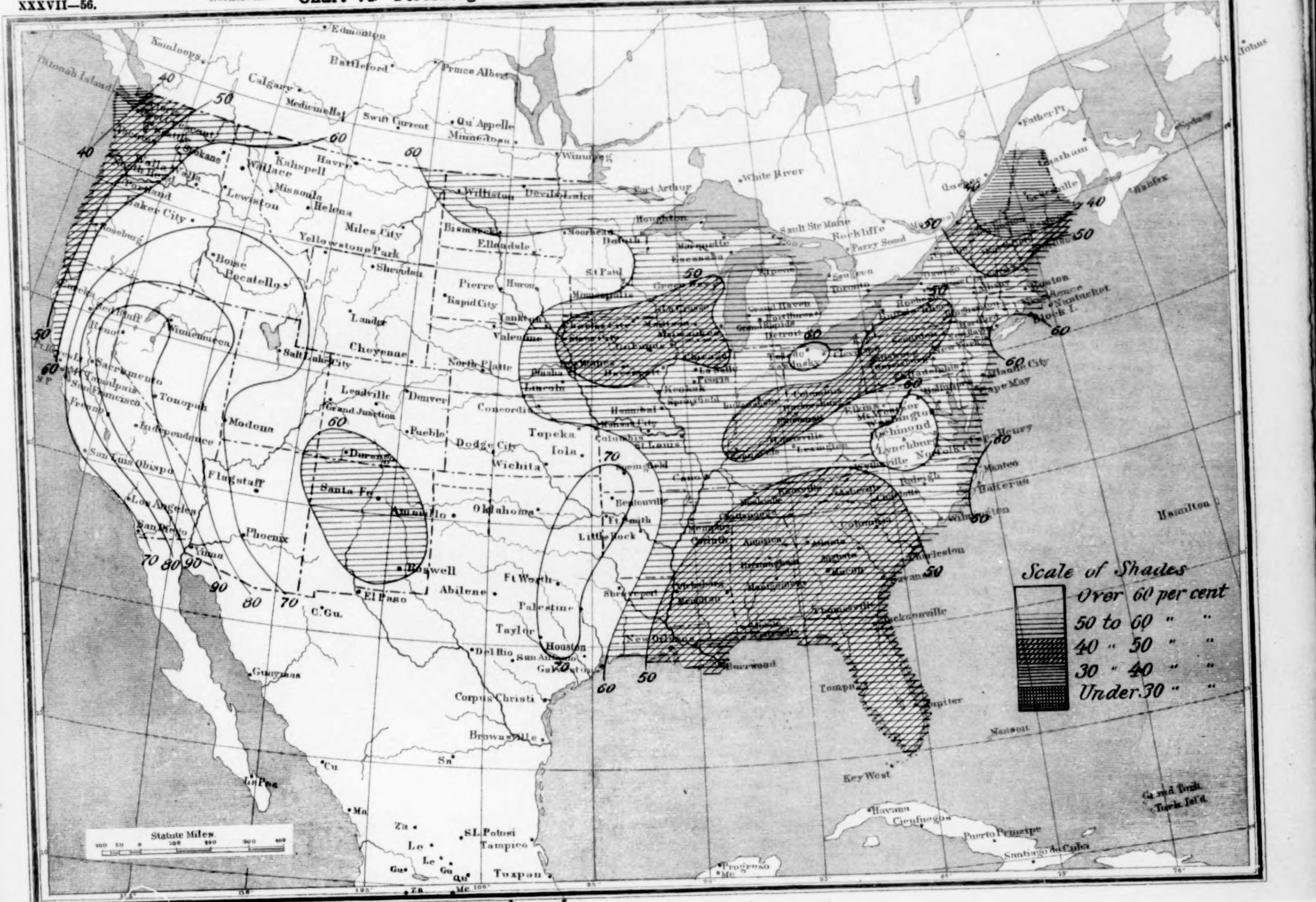


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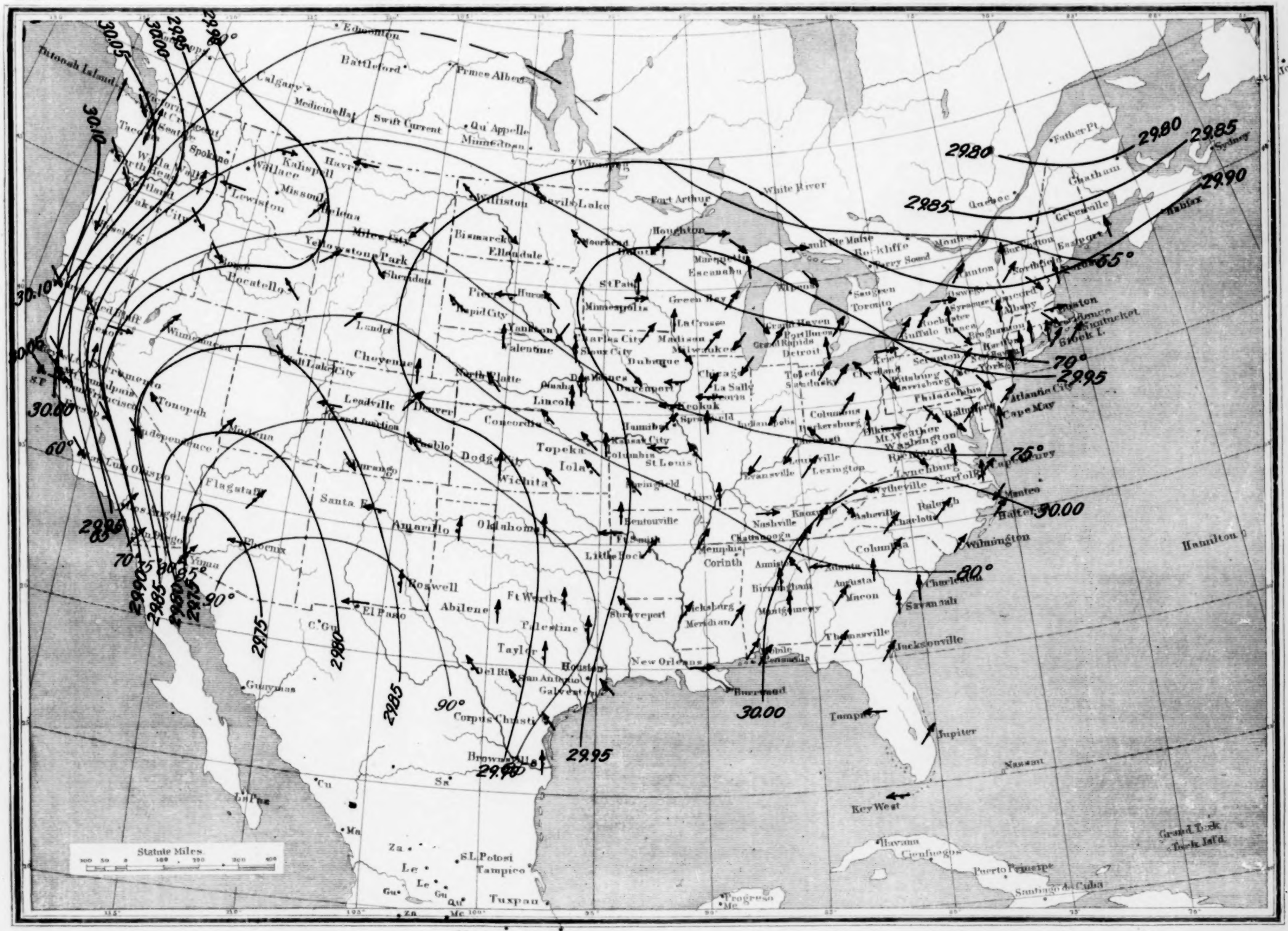
Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, July, 1909.

Chart VII. Isobars and Isotherms at Sea Level; Prevailing Winds, July, 1909.



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Rivers and Floods	2	45	86	126	174	222	399	540	687	831	988	1145
Special Articles, Notes, and Extracts	3	46	87	127	175	223	400	541	687	832	989	1146
Weather of the Month	30	73	112	161	209	253	397	538	685	829	986	1143
Condensed Climatological Summary	33	76	115	163	211	255	404	544	690	834	890	1148
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District 6							320	466	605	754	898	1058
District 7							337	483	622	771	916	1076
District 8							351	497	638	785	932	1090
District 9							363	505	648	794	941	1098
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The following charts appear in each number of the REVIEW from January to December, inclusive:

Chart I. Hydrographs for several principal rivers of the United States.
II. Tracks of centers of high areas.
III. Tracks of centers of low areas.
IV. Total precipitation (January to June); and as Chart V (July to December).
V. Percentage of clear sky between sunrise and sunset (January to June); and as Chart VI (July to December).
VI. Isobars and isotherms at sea level, prevailing winds (January to June); and as Chart VII (July to December).

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VIII. (January to April). Depth of snow on ground at end of month.
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X. (January.) Isobars at sea level over Canada, January 27, 1908, 8 a. m.
XI. (January.) Marvin's comparison of vapor pressures, figs. 1, 2, 3.
IX. (March.) Climatological districts of the United States.
IX. (April.) Cloud belts of Venus (A. W. Clayden).
VIII. (December.) Total snowfall.

From July to December there are in addition:

Two charts of each Climatological district, presenting the total precipitation, and the departures of the mean temperatures from the normal, respectively.

An unnumbered chart of Climatological districts for the United States.

CORRECTIONS AND ADDITIONS.

MONTHLY WEATHER REVIEW, 1909.

Page 3, column 1, last line, for "Exholm"read "Ekholm."
Page 13, column 2, footnote, for "Ermann" read "Erman."
Page 25, column 2, line 15, for "Jagar" read "Jaggar."
Page 29, column 1, line 30, for "mutual" read "natural."
Page 42, column 1, in table of comparative rainfall in Jamaica for "Rainfall, 1908" read "Rainfall, 1909."
Page 60, column 1, lines 7, 15, 28, for "Clayperon" read "Clapeyron."
Page 60, column 2, footnote, last line, for "— title" read "1st title."
Page 66, column 2, last author, for "Strömer" read "Störmer."
Page 66, column 2, line 65, for "Regein" read "Regeln."
Page 103, column 2, line 20 from the bottom, for "1875" read "1879."
Page 104, column 1, line 3 from the bottom, for "Lavel" read "Laval."
Page 104, column 2, line 2 from the bottom, for "1830" read "1880."
Page 107, column 1, for "Houdailles" read "Houdaille."
Page 109, column 1, for "Greeley, A. W." read "Greely, A. W."
Page 134, column 2, for "John F. Quinn" read "John T. Quinn."
Page 148, column 2, line 18 from the bottom, for "1880" read "1885."
Page 158, column 1, for "Greeley" read "Greely."
Page 160, column 2, under "Schierbeck, N. P." substitute matter on p. 252, column 2, heading Corrigendum.
Page 199, column 1, line 30, for "effect" read "affect."
Page 226, column 2, line 32, begins "rings of a tree."
Page 250, column 2, line 31 from bottom, for "Boulatovitch, A." read "Boulatovitch, M."
Page 265, column 2, line 2, for "St. Louis, Mo." read "New Orleans, La."
Page 266, column 1, line 9 from the bottom, for "Indians Affair" read "Indian Affairs."
Page 271, column 3, line 32, the altitude of Mt. Weather, Va., should be 1726 feet.
Page 290, column 1, line 6 from the bottom, for "western" read "eastern."
Page 372, head of page, for "Alfred H. Thiessen, District Editor" read "Prof. A. G. McAdie, District Editor."
Page 983, in table of seasonal precipitation for Porto Rico, make the rainfall for Caguas, November, read "6.65" instead of "5.92."
Caguas, autumn, read "21.64" instead of "20.91."
Sant Isabel, October, read "6.59" instead of "6.41."
Sant Isabel, autumn, read "16.80" instead of "16.62."
Mean rainfall for November read "8.54" instead of "8.52."
Mean rainfall for autumn read "26.20" instead of "26.16."
Minimum average for December read "1.12" instead of "1.22."
Minimum average for winter read "2.81" instead of "2.91."

CORRECTIONS AND ADDITIONS FOR TABLE 1 OF DISTRICTS FOR 1909.

Month and District.	Stations.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.				Prevailing wind direction.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
July, District 2	Anniston, Ala														11	8	6		
Do	Fayette, Ala												1.32						
Do	Maple Grove, Ala			78.6															
Do	Oneonta, Ala												2.45						
July, District 3	Tuscumbia, Ala												2.22						
July, District 7	Alicia, Ark												2.90						
July, District 9	Vernal, Utah	5,059																	
July, District 10	Deseret, Utah	4,541																	
Do	Manti, Utah	5,575																	
Do	Promontory, Utah		38																
August, District 2	Gadsden, Ala							60	26										
Do	Hamilton, Ala			82.8[b]		1.04[b]	27†	60[b]	27	44[b]			0.36[b]	0.0	2[b]	31	0	0	n.[b]
Do	Talladega, Ala																		e.
September, District 2	Camp Hill, Ala					93	5†												
Do	Maple Grove, Ala														5	11	19	0	
Do	Union Springs, Ala										8.06								
Do	Valley Head, Ala			70.8[f]		91[f]	12	38[f]	27†	42[f]			0.60[f]	0.0	3[f]	17	4	9	se.[f]
September, District 7	Mossville, Ark							41	28										
October, District 2	Demopolis, Ala												0.36						
Do	Lucy, Ala						5†												
October, District 7	Pond, Ark			63.8	+ 1.4														
November, District 3	Florence, Ala			59.4															
Do	Madison, Ala			58.6															
December, District 2	Camp Hill, Ala			42.2															
Do	Clanton, Ala			41.6[a]															
Do	Greensboro, Ala			42.5															
December, District 3	Madison, Ala					74	4												
Do	Riverton, Ala			33.5				6	30	44									
December, District 11	Bishop, Cal			28.5	−11.8	67	1	− 4	6	45	6.58	+ 6.32	2.70	39.8	6	19	1	11	
Do	Blythe, Cal			47.0		75	2	12	19	44	1.07		0.67	0.0	5	18	0	13	n.
Do	Pine Crest, Cal										9.61		4.65	0.0	9				
Do	San Leandro, Cal			46.5	− 5.9	62	7†	25	4	25	6.43	+ 3.86	1.56	0.0	15	8	8	15	

CORRECTIONS AND ADDITIONS FOR TABLE 2 OF DISTRICTS, FOR 1909.

December, District 11	Knob, Cal	11.45
Do	Pine Crest, Cal	9.61
Do	San Leandro, Cal	6.43
Do	Santa Ana River, Cal	10.88
Do	Ventura, Cal	7.57

CORRECTIONS AND ADDITIONS FOR TABLE 3 OF DISTRICTS, FOR 1909.

July, District 2	Montgomery, Ala	Minimum on 8th=74°; mean minimum =72.1°.

SUBJECT AND AUTHOR INDEX OF THE MONTHLY WEATHER REVIEW, 1909.

The following rules have been observed by Mr. Cleveland Abbe, jr., in preparing this index:

The meteorological elements most important in determining climate, such as temperature and precipitation, are entered under both the element and the locality, but the following are entered only under their respective headings, and not under the locality: Atmospheric electricity, droughts, earthquakes, evaporation, floods, fog, frost, lightning, meteors, optical phenomena, excessive precipitation, radiation, storms of all kinds, temperature of snow, soil, and water. Places in the United States are entered under the name of the State or Territory; in foreign countries, under the country.

If tables of observations contain but two subjects, e. g., pressure and temperature, each is indexed separately under its proper heading. Tables containing more than two subjects are entered but once (in addition to the entry under location), under the general heading "Observations," except that the following are indexed separately wherever they occur: Auroras, drought, evaporation, fog, frost, halos, number of days with precipitation, ozone, radiation, snow, sunshine, temperature of soil and water, thunderstorms, and (under clouds) number of clear, partly cloudy, and cloudy days.

The letters *a*, *b*, *c*, *d*, refer to the 1st, 2d, 3d, and 4th quarters of the page, respectively, and indicate a brief note or reference. The length of any article covering more than one column is given to the nearest whole page. An asterisk (*) preceding a page number shows that not more than a very few lines are devoted to the subject on that page. A dagger (†) indicates that the phenomenon described is especially noteworthy.

The following abbreviations are used: Q., "quoted"; p., "page" or "pages"; ch., "chart" or "charts"; pl., "plate" or "plates"; for the calendar months, Ja., F., Mr., Ap., My., Je., Jl., Ag., S., O., N., D.

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